

GERON CORP  
Form 10-K  
March 01, 2006

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## **Forward-Looking Statements**

This annual report on Form 10-K, including "Management's Discussion and Analysis of Financial Condition and Results of Operations" in Item 7, contains forward-looking statements that involve risks and uncertainties, as well as assumptions that, if they never materialize or prove incorrect, could cause the results of Geron Corporation ("Geron") to differ materially from those expressed or implied by such forward-looking statements. All statements other than statements of historical fact are statements that could be deemed forward-looking statements. The risks and uncertainties referred to above include, without limitation, risks inherent in the development and commercialization of Geron's potential products, dependence on collaborative partners, need for additional capital, need for regulatory approvals or clearances, the maintenance of Geron's intellectual property rights and other risks that are described herein and that are otherwise described from time to time in Geron's Securities and Exchange Commission reports including, but not limited to, the factors described in "Additional Factors That May Affect Future Results" set forth in Item 1 of this report. Geron assumes no obligation and does not intend to update these forward-looking statements.

## **PART I**

### **ITEM 1. BUSINESS**

#### **Overview**

Geron is a biopharmaceutical company focused on developing and commercializing three groups of products: (i) therapeutic products for oncology that target telomerase; (ii) pharmaceuticals that activate telomerase in tissues impacted by senescence, injury or degenerative disease; and (iii) cell-based therapies derived from our human embryonic stem cell platform for applications in multiple chronic diseases.

We were incorporated in 1990 under the laws of Delaware. Our principal executive offices are located at 230 Constitution Drive, Menlo Park, California 94025. Our telephone number is (650) 473-7700.

We make available free of charge on or through our Internet website our annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K and all amendments to those reports as soon as reasonably practicable after they are electronically filed with, or furnished to, the Securities and Exchange Commission. Our Internet website address is [www.geron.com](http://www.geron.com).

#### **Major Technology Platforms**

##### ***Telomeres and Telomerase: Role in Cellular Aging and Cancer***

Cells are the building blocks for all tissues in the human body and cell division plays a critical role in the normal growth, maintenance and repair of human tissue. However, in the human body, most cell division is a limited process. Depending on the tissue type, cells generally divide only 60 to 100 times during the course of their normal lifespan.

We and our collaborators have shown that telomeres, located at the ends of chromosomes, are key genetic elements involved in the regulation of the cellular aging process. Our work has shown that each time a normal cell divides, telomeres shorten. Once telomeres reach a certain short length, cell division halts and the cell enters a state known as replicative senescence or aging. Thus, this shortening of the telomeres effectively serves as a molecular "clock" for cellular aging. We and others have shown that when the enzyme telomerase is introduced into normal cells, it can restore telomere length "reset the clock" thereby increasing the functional lifespan of the cells. Importantly, it does this without altering the cells' biology or causing them to become cancerous. Human telomerase, a complex enzyme, is composed of a ribonucleic acid (RNA) component, known as hTR, a protein

component, known as hTERT, and other accessory proteins. In 1994, we cloned the gene for hTR, and in 1997, in collaboration with Dr. Thomas Cech, we cloned the gene for hTERT.

Our work and that of others has shown that telomerase is not present in most normal cells and tissues, but that during cancer progression, telomerase is abnormally reactivated in all major cancer types. We have shown that while telomerase does not cause cancer (which is caused by mutations in oncogenes and tumor suppressor genes), the continued presence of telomerase enables cancer cells to maintain telomere length, providing them with indefinite replicative capacity. We and others have shown in various tumor models that inhibiting telomerase activity results in telomere shortening and causes aging or death of the cancer cell.

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Although telomerase is expressed in nearly all cancer cells, it is not expressed in most normal cells. That gives telomerase the potential of being both a universal as well as a highly specific cancer target. This specificity means that drugs and biologics that attack cancer cells by targeting telomerase may leave other cells unaffected, and thus should have fewer side effects than conventional chemotherapeutic agents that typically attack both cancer and non-cancer cells.

We are developing anti-cancer therapies based on telomerase inhibitors, telomerase therapeutic vaccines and, through our licensee, telomerase-based oncolytic (cancer-killing) viruses. Through our licensees, we also intend to continue to develop and commercialize products using telomerase as a marker for cancer diagnosis, prognosis, patient monitoring and screening.

We are also developing drugs that activate telomerase to enhance cell repair/function in senescent tissues implicated in certain chronic diseases.

### ***Human Embryonic Stem Cells: A Potential Source for the Manufacturing of Replacement Cells and Tissues***

Stem cells generally are self-renewing primitive cells that can develop into functional, differentiated cells. Human embryonic stem cells (hESCs), which are derived from very early stage embryos called blastocysts, are unique because:

- they are pluripotent, which means they can develop into all cells and tissues in the body, and
- they self-renew indefinitely in the undifferentiated state.

The ability of hESCs to divide indefinitely in the undifferentiated state without losing pluripotency is a unique characteristic that distinguishes them from all other stem cells discovered to date in humans. We have demonstrated that hESCs express telomerase continuously, a characteristic of immortal cells. Other stem cells such as blood or gut stem cells express telomerase at very low levels or only periodically; they therefore age, limiting their use in research or therapeutic applications. hESCs can be expanded in culture indefinitely and hence can be banked for scaled product manufacture.

We intend to use human embryonic stem cell technology to:

- enable the development of transplantation therapies by providing standard starting material for the manufacture of cells and tissues;
- facilitate pharmaceutical research and development practices by providing cells for disease models and screening, and for assigning function to newly discovered genes; and
- accelerate research in human developmental biology by identifying the genes that control human growth and development.

### **Commercial Opportunities for Our Major Technology Platforms**

## Oncology

Cancer is a group of diseases characterized by the uncontrolled growth and spread of abnormal cells. The American Cancer Society estimated that approximately 1.4 million new cancer cases were to be diagnosed in 2005. Overall annual costs associated with cancer in 2005 were an estimated \$189.8 billion in the United States alone. Because telomerase is detectable in more than 30 human cancer types and in the great majority of cancer samples studied, we believe that telomerase-based drugs could overcome the limitations of current cancer therapies and potentially be broadly applicable and highly specific drug treatments for cancer.

We, our collaborators and our licensees are developing a range of anti-cancer therapies, including anti-cancer therapies based on telomerase inhibitors, telomerase therapeutic vaccines and telomerase-based oncolytic (cancer-killing) viruses, and diagnostics based on telomerase detection. We believe telomerase is an ideal target for cancer therapeutics and diagnostics because it appears to be universal (expressed in all major types of cancers studied to date), specific (not expressed in most normal cells), and critical (required for long-term survival of cancer cells). We believe that we have the dominant patent position in the field of telomerase. Whether it is achieved by us or by our collaborators and licensees, we believe that progress in the development of any of these telomerase-based cancer therapeutics will further validate the importance of telomerase as a cancer target and therefore benefit all of our telomerase cancer programs.

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*Telomerase Inhibition.* Telomerase activation is necessary for most cancer cells to replicate indefinitely and thereby enable tumor growth and metastasis. One of our strategies for the development of anti-cancer therapies is to inhibit telomerase activity in cancer cells. Inhibiting telomerase activity should result in telomere shortening and therefore cause aging and death of cancer cells. Recent data show that telomerase can protect tumor cells from genomic instability and other forms of cellular stress, suggesting that inhibiting telomerase can cause a more rapid suppression of tumor growth than predicted by telomere loss alone. Because telomerase is expressed at very low levels, if at all, in most normal cells, the telomerase inhibition therapies described below are not expected to be toxic to normal cells.

We have designed and synthesized a special class of short-chain nucleic acid molecules, known as oligonucleotides, which target the template region, or active site, of telomerase. Our work has focused on two of these oligonucleotides, called GRN163 and GRN163L, and we have demonstrated that they have highly potent telomerase inhibitory activity at very low concentrations in biochemical assays, various cellular systems, and animal studies.

Our compounds GRN163 and GRN163L are direct enzyme inhibitors, not antisense compounds. They are smaller (lower molecular weight) than typical antisense compounds or other oligonucleotide drug candidates, and we expect them to be administered either locally or systemically. *In vitro* and *in vivo* studies indicate that the compounds do not inhibit other critical nucleic acid-modifying enzymes and do not appear to be toxic to normal cells at concentrations expected to inhibit telomerase in tumor cells. Both compounds use a special thiophosphoramidate chemical backbone, for which we acquired key patents in March 2002 from Lynx Therapeutics.

We and our collaborators have so far tested GRN163 *in vitro* on 14 different cancer cells and demonstrated significant inhibition of telomerase activity in all of them. Research by our collaborators has shown that these compounds inhibit the growth of malignant human glioblastoma (brain cancer) cells, prostate cancer cells, lymphoma, myeloma, hepatocellular carcinoma (liver cancer), melanoma, lung, ovarian and cervical cancer cells in animals.

Intratumoral administration of GRN163 in an animal model of human glioblastoma resulted in complete tumor eradication in five of seven treated rats without any toxicity and significantly extended their survival compared to untreated controls. Intravenous administration of GRN163 in a study of animals bearing disseminated human multiple myeloma substantially reduced tumor growth and resulted in a 50% increase in survival compared to controls. GRN163L is identical in structure to GRN163 except that it has a lipid attached to one end of the molecule, which increases potency and improves its pharmacokinetic and pharmacodynamic properties. The improved pharmacokinetic and pharmacodynamic characteristics of GRN163L suggest that it should be effective

in inhibiting telomerase in tumor cells when administered intermittently (e.g., once per week).

We completed a series of animal toxicology and preclinical efficacy studies of GRN163L in 2005, after which we prepared and submitted an Investigational New Drug (IND) application to the U.S. Food and Drug Administration (FDA) to begin human clinical trials of GRN163L in patients with chronic lymphocytic leukemia (CLL). We received FDA concurrence to begin human studies. Thus far, two clinical sites have been designated as patient enrollment centers for the study. We expect to engage additional trial sites in 2006 and also to initiate a second Phase 1-2 study for patients with solid tumor cancers in 2006.

*Telomerase Therapeutic Vaccine.* Our second approach to anti-cancer therapy is a telomerase therapeutic vaccine. The goal of therapeutic cancer vaccines is to "teach" the patient's own immune system to attack cancer cells while sparing other cells. This is done by exposing the immune system to a substance (antigen) that is specific to cancer cells, inducing an immune response to any cells that present that antigen. We believe that telomerase's characteristics make it an ideal antigen for cancer vaccines.

We are conducting human clinical trials to confirm and optimize the safety and efficacy of telomerase vaccine therapies. In collaboration with scientists at Duke University, we published studies, which demonstrate that cancer patients' immune cells can be activated with a telomerase vaccine in the laboratory to kill their own cancer cells. This technique was also effective in reducing tumors in animals. At Duke University Medical Center, a Phase 1-2 clinical trial in prostate cancer patients concluded in March 2005 and currently additional Phase 1-2 clinical trials are underway for patients with hematologic, prostate and renal cancers. The telomerase vaccine being tested at Duke University Medical Center generates cytotoxic T-cells that attack cancer cells expressing telomerase. The Duke Phase 1-2 clinical

trials use an *ex vivo* process. Dendritic cells (the most efficient antigen-presenting cells) are isolated from the patient's blood, pulsed with RNA for the telomerase protein component, and then returned to the patient's body where they instruct cytotoxic T-cells to kill tumor cells that express telomerase.

The first clinical trial at Duke University Medical Center was designed to enroll up to a total of 24 patients with metastatic prostate cancer, up to 12 of whom would receive three weekly vaccinations (low-dose group), and up to 12 of whom would receive six weekly vaccinations (high-dose group). Twenty patients (all 12 of the low-dose group and eight of the high-dose group) were enrolled and treated, and the results of this study were published in the *Journal of Immunology* in March 2005. None of the patients in either group has shown treatment-related adverse effects to date. All but one of the patients in the low-dose group showed a significant cellular immune response specific to telomerase. The eight patients in the high-dose group all showed very robust cellular immune responses to telomerase based on tests assessing the generation of telomerase-specific cytotoxic CD-8+ T-lymphocytes, as well as CD-4+ lymphocytes. The immune responses in the high-dose group were strong as well as specific: peak responses were 1-2% of circulating CD-8+ T-cells having anti-telomerase activity. Levels of circulating cancer cells were also analyzed. Ten subjects had elevated levels of circulating prostate cancer cells before vaccination. Nine of these ten had their levels reduced or cleared transiently after vaccination.

Serum PSA was measured before, during and multiple times after vaccination to calculate PSA doubling time as a surrogate marker for treatment response. No significant change in PSA doubling time was observed in the low-dose group. A highly significant increase in PSA doubling time was observed in the high-dose group, suggestive of a clinical response to vaccination.

We are currently supporting several small additional Phase 1-2 trials, for patients with prostate cancer, hematologic malignancies and renal carcinoma at Duke, in order to optimize the vaccination process. We are testing: (i) the pre-vaccination administration of an approved compound to potentially augment vaccine potency; (ii) the use of a second approved compound applied to the vaccine injection site to potentially enable the use of dendritic cells produced by an alternative manufacturing process and; (iii) the use of boost vaccinations to potentially enhance the durability of the anti-telomerase immune response. Additionally, we have brought the vaccine manufacturing process in-house for further optimization and transfer to a contract manufacturer. At the conclusion of these activities, we plan to file our IND with the FDA for clinical trials in one or more cancer types.

In 2004, we acquired rights from Argos Therapeutics, Inc. (formerly Merix) to commercialize the *ex vivo* dendritic cell processing technology used in the Duke clinical trial for telomerase and any other defined tumor-specific antigen. We own the rights to the telomerase antigen and its use in therapeutic vaccines.

In July 2005, we entered into a worldwide exclusive research, development and commercialization license agreement with Merck & Co., Inc. for cancer vaccines targeting telomerase by methods other than dendritic cell delivery. In exchange for the license to telomerase, we received from Merck an upfront payment and will receive payments upon achievement of certain regulatory and development milestones, as well as royalties on product sales. We also issued to Merck a warrant to purchase our common stock in connection with our next public equity offering, which Merck exercised in connection with the public offering that we closed in September 2005. In addition, Merck acquired an exclusive option to negotiate a separate agreement for our dendritic cell-based telomerase vaccine currently in Phase 1-2 trials at Duke. We received an option payment from Merck in consideration for the option.

*Oncolytic Virus.* A third telomerase-based anti-cancer therapeutic strategy utilizes viruses that have been manipulated or engineered to have oncolytic, or cancer-killing, properties, enabling them to selectively target and destroy cancer cells that express telomerase. We have cloned the promoter region of the telomerase gene and have shown that it can be used to switch on genes required for the virus to replicate within the cancer cell. Our data indicate that when tumor cells are infected with the virus, the virus multiplies or replicates within the cancer cells and causes the rupture and death of the tumor cells. When these same-engineered viruses infect normal somatic cells, there is no killing effect and the virus dissipates. This selective lytic effect on cancer has been demonstrated *in vitro* in seven different tumor types: prostate, liver, lung, pancreatic, colorectal, breast and ovarian cancers. These *in vitro* results have been extended to animal models of liver and prostate cancer with similar effects against the animals' tumors while sparing normal cells.

We initially granted a non-exclusive license to Genetic Therapy, Inc. (GTI), a subsidiary of Novartis AG, to use our telomerase promoter technology to develop an oncolytic virus product. Subsequently, GTI's oncolytic virus business and our license to GTI were acquired by Cell Genesys Inc., which also has its own oncolytic virus program and has continued the research and development of an oncolytic virus product.

*Cancer Diagnostics.* Telomerase is a broadly applicable and highly specific marker for cancer because it has been detected in more than 30 human cancer types and in the great majority of cancer samples studied. We believe that the detection of telomerase may have significant clinical utility for cancer diagnosis, prognosis, monitoring and screening. Current cancer diagnostics apply only to a single or limited number of cancer types because they rely on molecules expressed only by particular cancer types. However, telomerase-based diagnostics could potentially address a broad range of cancers.

We have developed several proprietary assays for the detection of telomerase which are based on its activity or the presence of its RNA or protein components. The first-generation assay is the Telomeric Repeat Amplification Protocol (TRAP) assay which can be used to detect telomerase activity in human tissue or cells, including clinical samples. The second-generation assays detect the presence of hTR and hTERT in human tissues and body fluids. We own issued patents for the detection of telomerase activity and the components of telomerase including patents for the TRAP assay and diagnostic methods based on telomerase detection. To date, our licensees have commercialized 13 research-use-only kits that incorporate our technology.

Through Roche Diagnostics, we are participating in the development of fluids-based telomerase detection tests for clinical *in vitro* diagnostics. The tests are based on telomerase detection assays that we have already commercialized for the research-use-only market. Clinical research data generated by Roche indicates that an assay for telomerase is a sensitive and specific test for detecting bladder cancer with potential utility in early detection screening and monitoring of patients for recurrence. Patients who have had bladder cancer now periodically undergo invasive cystoscopy to screen for recurrence.

### **Telomerase Activation**

We are developing drug candidates to treat various degenerative diseases by the controlled activation of telomerase. Data published by us and others has indicated that cellular aging caused by shortening telomeres, which occurs in numerous tissues throughout the human body, causes or contributes to chronic degenerative diseases and conditions including anemia, HIV/AIDS, liver disease, macular degeneration (a chronic disease of the eyes often leading to vision loss), atherosclerosis (narrowing of arteries which reduces blood flow to internal organs) and impaired wound healing. Controlled activation of telomerase in normal cells can restore telomere length, improve functional capacity, and increase the proliferative lifespan of cells.

*Skin.* The skin is a major organ of the body which deteriorates with age impacting not only human physical health but also appearance and self-esteem. The thinning and increased wrinkling of older skin is symptomatic of impaired wound healing and results in increased frequency of chronic ulcers. Skin cancers are more prevalent than any other form of cancer and are believed to be caused in part by aging of skin cells.

We have studied the activation of telomerase in skin cells. Our scientists and other researchers have established that the loss of telomeric DNA accompanies the aging of skin cells in tissue culture and in the body. The restoration of telomerase activity in skin cells in culture dramatically extends the healthy lifespan of these cells. Animal models of telomere loss also correlate cellular aging with thinning of skin, graying of hair, chronic ulcerative lesions at areas of stress and reduced ability to repair wounds. Our approach to the therapeutic use of telomerase activation in skin has included both small molecule drug discovery and biological methods of restoring telomerase in various skin cells. We have demonstrated that telomerase activation by gene therapy significantly improves wound healing in a rabbit model of skin ulceration.

*HIV/AIDS.* Work by our collaborators has shown that telomere loss in cytotoxic T-lymphocytes, the blood cells responsible for killing HIV-infected cells, is accelerated in HIV/AIDS patients, and contributes to the loss of anti-HIV activity that occurs during disease progression. Our collaborators published data showing that telomerase activation in T-lymphocytes both increased their lifespan and significantly enhanced their anti-HIV activity.

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These results were extended in a publication in the *Journal of Immunology* (November 2004) which showed that telomerase activation in bulk cultures of lymphocytes from HIV patients enhanced HIV-suppressing activity and improved the production of antiviral cytokines in response to HIV-specific stimulation. These results show that telomere shortening in HIV-specific lymphocytes plays a major role in the immune dysfunction seen in late stage HIV-1 disease and that telomerase activation, by enhancing the anti-HIV effects of CD8+ lymphocytes, is potentially a therapy for treating patients with HIV disease.

Our approach to the therapeutic use of telomerase activation in HIV/AIDS and other chronic diseases is based upon small molecule telomerase activators we have identified (TAT0001 and TAT0002). We are currently testing these telomerase activating drugs for enhancement of antiviral activity in lymphocytes from HIV patients. In March 2005, our collaborators presented data showing that our two small molecule telomerase activators, TAT0001 and TAT0002 (formerly GRN139951 and GRN140665), activated telomerase *in vitro* in cytotoxic T-cells taken from HIV/AIDS donors. Moreover, the compounds increased the proliferative capacity and secretion of gamma Interferon (a virus-fighting molecule) when these treated cells were exposed to HIV peptides.

In 2005, we formed a new joint venture company, TA Therapeutics, Ltd. (TAT), with the Biotechnology Research Corporation (BRC) of Hong Kong. TAT will conduct research and commercially develop products that utilize telomerase activator drugs to restore the regenerative and functional capacity of cells in various organ systems that have been impacted by senescence, injury or chronic disease. TAT is owned 50% by us and 50% by BRC, a company established by the Hong Kong University of Science and Technology, our research partner in the development of telomerase activator drugs.

### ***Human Embryonic Stem Cell Therapies***

We are developing cell-based therapeutics for several diseases based on differentiated cells derived from hESCs, including neural cells for spinal cord injury and Parkinson's disease, cardiomyocytes for heart disease, pancreatic islet  $\beta$  cells for diabetes, osteoblasts for osteoporosis, chondrocytes for osteoarthritis and

hematopoietic cells for blood diseases and to prevent immune rejection of the other cell types. We have developed proprietary methods to grow, maintain and scale up undifferentiated hESCs using feeder cell-free, chemically defined culture medium, before differentiating them into therapeutically relevant cells. We are now testing six different therapeutic cell types in animal models. In four of these cell types, we have preliminary results suggesting efficacy as evidenced by durable engraftment or functional improvements of the treated animals. After completion of these studies, we expect to begin one or more Phase 1 clinical trials, most likely including treatment for spinal cord injury. We own or have licenses to intellectual property covering core inventions and critical enabling technology in this field.

*Oligodendrocytes for Spinal Cord Injury and Dopaminergic Neurons for Parkinson's Disease.* The major neural cells of the central nervous system typically do not regenerate after injury. If a nerve cell is damaged due to disease or injury, there is no treatment at present to restore lost function. Millions of patients worldwide suffer from injury to the nervous system or disorders associated with its degeneration. Over one million Americans suffer from Parkinson's disease, a neurological disorder caused by the progressive degeneration of specific cells within the brain that control certain motor functions. In the case of spinal cord injuries, patients are often left partly or wholly paralyzed because nerve and supporting cells in the spinal cord have been damaged and cannot regenerate. Such patients are permanently disabled, often institutionalized and may require life support.

Embryonic stem cell-derived neural cells have been used by researchers to treat nervous system disorders in animal models. In earlier work, researchers showed that mouse embryonic stem cells could be stimulated to differentiate into neural cells which, when transplanted into mice with neurological disorders, helped to restore normal function. In the case of spinal cord injuries, neural cells derived from animal embryonic stem cells and injected into the spinal cord injury site produced significant recovery of the animal's ability to move and bear weight.

To apply those observations to humans, we have now derived both oligodendrocytes and dopaminergic neurons from hESCs in culture and have begun testing them in animal models to determine whether they can restore normal neural function. In our collaboration with researchers at the University of California, Irvine, we have shown proof-of-concept in spinal cord-injured rats which showed significant functional improvement after receiving transplants of hESC-derived oligodendrocyte progenitors. These data were published in May 2005 in the *Journal of Neuroscience*.

*Cardiomyocytes for Heart Disease.* Heart muscle cells (cardiomyocytes) do not regenerate during adult life. When heart muscle is damaged by injury or decreased blood flow, functional contracting heart muscle is replaced with nonfunctional scar tissue. Congestive heart failure, a common consequence of heart muscle or valve damage, affects approximately 5.0 million people in the United States. This year, it is estimated that about 1.2 million people will have a heart attack, which is the primary cause of heart muscle damage.

We can potentially treat heart disease by using cardiomyocytes derived from hESCs. Researchers have demonstrated proof-of-concept of our approach in mice. Mouse embryonic stem cells have been used to derive mouse cardiomyocytes. When injected into the hearts of recipient adult mice, the cardiomyocytes repopulated the heart tissue and stably integrated into the muscle tissue of the adult mouse heart. In human medicine, it is therefore possible that hESC-derived cardiomyocytes could be developed for cellular transplantation therapy in humans suffering from congestive heart failure and the damage caused by heart attacks. We have derived human cardiomyocytes from hESCs and observed their normal contractile function and response to cardiac drugs. We have transplanted these cells into animal models, and to date the cells appear to be engrafting and integrating with the myocardium in uninjured animals, as well as restoring cardiac function in animals with acutely or recently induced myocardial infarctions.

*Islet Cells for Diabetes.* It is estimated that there are as many as one million Americans suffering from Type 1 Diabetes (Insulin Dependent Diabetes Mellitus). Normally, certain cells in the pancreas, called the islet  $\beta$  cells, produce insulin which promotes the uptake of the sugar glucose by cells in the human body. Degeneration of pancreatic islet  $\beta$  cells results in a lack of insulin in the bloodstream which results in diabetes. Although diabetics can be treated with daily injections of insulin, these injections enable only intermittent glucose control. As a result, patients with diabetes suffer chronic degeneration of many organs, including the eye, kidney, nerves and blood vessels. In some cases, patients with diabetes have been treated with islet  $\beta$  cell transplantation. However,

poor availability of suitable sources for islet  $\beta$  cell transplantation and the complications of the required co-administration of immunosuppressive drugs make this approach impractical as a treatment for the growing numbers of individuals suffering from diabetes.

We have derived insulin-producing cells (i.e. similar to pancreatic islet  $\beta$  cells) from hESCs and are working to improve the yield of islet cells and characterize their secretion of insulin in response to glucose. We began transplanting the islets to animal models of diabetes and early results show prolonged survival of cells in the engrafted animals and the detection of human insulin in their blood.

*Osteoblasts for Osteoporosis and Non-Union Bone Fractures.* Osteoporosis, or loss of bone density, is a common condition associated with aging and hormonal changes in post-menopausal women. In addition to skeletal deformities, back pain and loss of height, the disease causes over 1.5 million fractures per year in the United States alone. These fractures often occur after minimal trauma and if severe, as in hip fracture, carry average mortality rates as high as 24% for patients aged 50 and over. Nearly one in five hip fracture patients ends up in a nursing home. Total health care costs for osteoporosis and its complications are estimated at \$18 billion per year in the United States.

The primary cause of the disease is metabolic bone loss (mediated by osteoclasts  $\square$  cells which resorb bone) that is incompletely compensated by new bone formation (mediated by osteoblasts  $\square$  cells which form new bone). Osteoblast activity declines over the human lifespan and fails to keep pace with the increasing activity of osteoclasts, resulting in progressive loss of bone density leading to fracture, pain and deformity.

We have made osteoblasts from hESCs and are now conducting preclinical tests in animals. If these preclinical tests are successful, we may test the cells in patients with non-union fractures (fractures of the long bones of the leg or arm that do not heal) or in patients with severe refractory osteoporosis.

*Chondrocytes for Osteoarthritis.* Osteoarthritis, or Degenerative Joint Disease, is an extremely common condition characterized by degradation of cartilage in joints, often accompanied by bone remodeling and bone overgrowth at the affected joints. The disease affects an estimated 21.0 million adults in the United States, mostly after age 45. The disease has many causes, but the end result is a structural degradation of joint cartilage and a failure of chondrocytes (cartilage-forming cells) to repair the degraded cartilage collagen matrix. We plan to derive chondrocytes from hESCs and, if *in vitro* and animal testing results are positive, we will test these cells in patients with osteoarthritis by injecting them directly into their affected joints.

*Hematopoietic Cells for Hematologic Diseases and to Prevent Immune Rejection.* The hematologic system (the circulating cells of blood) is one of the rare tissues of the human body that can replenish itself throughout life. The critical importance of the blood cells and the many diseases that can affect those cells have caused the emergence of an entire subspecialty in medicine: hematology  $\square$  the study of blood and its diseases.

One of the most complex and impactful areas of hematology is bone marrow transplantation, now used to treat patients with bone marrow failure, leukemia, lymphoma, myeloma and solid tumors such as breast cancer. The most common indications for the procedure are: (i) failure of bone marrow stem cells to produce a particular blood cell type(s), such as aplastic anemia (a deficiency of mature circulating blood cells), (ii) infiltration of bone marrow by tumor cells which displace the marrow and cause deficiencies of mature circulating blood cells, or (iii) side effects of chemotherapy or radiotherapy used for cancer treatment which is toxic to bone marrow stem cells. Although complex and expensive, the use of bone marrow transplantation is increasing worldwide. A major unresolved problem in the procedure is the lack of availability of suitably matched marrow donors, which severely limits the numbers of patients who can undergo the transplant.

We have derived hematopoietic stem cells from hESCs, and tests of these cells in animal models of bone marrow transplantation show engraftment of the cells. If these animal tests and other *in vitro* tests continue to be positive, hematopoietic stem cells produced from hESCs may find use not only in hematopoietic transplantation therapies, but also in procedures designed to prevent immune rejection of other hESC-derived transplanted cells. This approach could potentially eliminate the need for immunosuppressive drugs in patients who receive transplants of hESC-based therapeutic cells.



***Products for Research and Development***

*Immortalized Cells for Research.* Scientists study specific cells from targeted tissues in order to understand their biological function. For these studies, cells are usually isolated from tissue and maintained in culture. The progressive changes in biological activity, morphology and proliferation as a result of normal cell aging in tissue culture potentially limit the utility of these cells in serial experiments and long-term research. Because of these limitations, most research laboratories utilize transformed cell lines for their studies. Cells can be transformed by using viruses which ultimately cause the cells to grow indefinitely in culture. However, such immortalized cell lines have abnormal characteristics compared to non-transformed cells. For this reason, they are not good models of normal tissue in the human body.

Telomerase-immortalized cells may be ideal for use in biological research because these cells proliferate indefinitely and function in culture in the same manner as the normal, mortal cells from which they were derived. Moreover, telomerase-immortalized cells can function in the body to form normal tissue and their capacity to differentiate into mature tissue is maintained. The ability of these cells to maintain normal physical and biological characteristics while retaining proliferative capacity allows them to be a constant source of cells for repeat and long-term studies of the function of cells both in culture and in the body. Telomerase-immortalized cells can be used to study any of the normal biological pathways in cells and can be used to screen for factors which influence the appropriate function of those cells. Moreover, cells taken from diseased tissues which are then telomerase-immortalized in culture can be used to explore the mechanism of the disease process and to develop interventions to prevent or treat that disease.

We are making telomerase-immortalized cell lines commercially available to the research market and to companies for basic research and for use in drug discovery and biologics production applications. We have granted royalty-bearing licenses to the American Type Culture Collection and Cambrex BioSciences under which these organizations will produce and sell telomerase-immortalized cells for both academic research and commercial drug discovery.

*hESC-Derived Hepatocytes for Drug Screening and Toxicology.* Three of the major hurdles of pharmaceutical drug development are: (i) identifying compounds with activity in diseased tissue; (ii) understanding the metabolism and biodistribution of the compound; and (iii) determining the potential toxic side effects of the compound. Undesirable activity of a compound being evaluated as a drug candidate in any one of these areas can impact the development and commercialization of the drug. The earlier in development that a compound is found to have undesirable characteristics, the faster these characteristics can be potentially corrected. This potentially translates into reduced costs and time in drug development, and less harmful exposure to patients in clinical trials.

Many prospective new drugs fail in clinical trials because of toxicity to the liver or because of poor uptake, distribution or elimination of the active compound in the human body. Much of the efficacy and safety of a drug will depend on how that drug is metabolized into an active or inactive form, and on the toxic metabolites that might be generated in the process. Hepatocytes, the major cells of the liver, metabolize most compounds and thereby can be used to predict many pharmacological characteristics of a drug.

There are no completely effective systems available today to accurately predict the metabolism or toxicity of a compound in human livers. Rat and mouse metabolism models only approximate human metabolism. The development of several drugs has been terminated late in human clinical trials because rodent systems utilized early in the development process failed to predict that the drug would be toxic to humans. Human hepatocyte cell lines available today do not have the same attributes as their normal counterparts in the body and must be transformed in order to maintain their proliferative capacity in culture. Access to fresh primary human liver tissue for use in toxicity studies is very limited and substantial variability can be observed depending on the individual donor, the time and process of collection and the culture conditions for the experiments.

We are developing methods to derive standardized functional hepatocytes (liver cells) from hESCs to address the significant unmet need for a reliable predictor of the metabolism, biodistribution and toxicity of drug development candidates. If we are successful, these cells would provide a consistent source of normal human

liver cells that can reliably predict how a new drug will affect the livers of the people who take it. We believe that an unlimited supply of human hepatocytes, which retain normal drug-metabolizing enzyme activity, would address one of the largest bottlenecks in new drug research and accelerate the drug development process. In addition, the availability of hepatocytes from numerous individuals would allow a more thorough understanding of the effects of a drug candidate on a specific individual, promoting development of the field of pharmacogenomics - the study of how a compound's activity varies with an individual's genetic make-up. Our scientists have succeeded in demonstrating that hepatocyte-like cells derived from hESCs express normal markers of hepatocyte function, including Phase 1 and Phase 2 drug-metabolizing enzymes. We have been awarded a U.S. patent covering human hepatocytes derived from hESCs and a second U.S. patent covering the use of hESC-derived hepatocytes for drug screening. We have formed a three-way collaboration between us, the Roslin Institute in Edinburgh, Scotland, and CXR BioSciences in Dundee, Scotland, to develop and commercialize hESC-derived hepatocytes for drug screens.

### ***Nuclear Transfer: Agriculture/Xenotransplantation/Biologics***

Nuclear transfer is a method for producing animals whose nuclear genetic material is derived solely from a donor cell from an individual animal (clones). In this process, the nucleus containing the chromosomal DNA is removed from the animal egg cell and subsequently replaced with a nucleus from a donor somatic (non-reproductive) cell. Fusion between the resulting egg cell and the donor somatic nucleus results in a new cell which gains a complete set of chromosomes derived entirely from the donor nucleus. Mitochondrial DNA, providing some of the genes for energy production, resides outside the nucleus and is provided by the egg. After a brief culture period that enables the reconstituted egg cell to initiate embryonic development, the early embryo is implanted into the uterus of a female animal, where it can fully develop and result in the live birth of a cloned offspring animal. The offspring is essentially a genetic clone of (genetically identical to) the animal from which the donor nucleus was obtained.

In early 1997, Dr. Ian Wilmut and his colleagues at the Roslin Institute were the first to demonstrate, with the birth of Dolly the sheep, that the nucleus of an adult cell can be transferred to an enucleated egg to create cloned offspring. The birth of Dolly was significant because it demonstrated the ability of egg cell cytoplasm, the portion of the egg outside of the nucleus, to reprogram an adult somatic nucleus. Reprogramming enables the adult somatic cell nucleus to express all the genes required for the full embryonic development of the animal. In addition to sheep, the technique has been used to clone mice, rats, goats, cattle, rabbits, cats and pigs from donor cells and enucleated eggs from each respective animal species. In 1999, we acquired Roslin Bio-Med Ltd., a commercial subsidiary of the Roslin Institute, and an exclusive license to the use of nuclear transfer technology for the creation of cloned animals.

*Agriculture.* Our nuclear transfer technology can be used for applications in agriculture that could improve livestock by producing unlimited numbers of genetically identical animals with superior commercial qualities. Such applications can be extended to major agricultural sectors, such as beef, dairy, pork and poultry, to provide large numbers of animals with superior characteristics of disease resistance, longevity, growth rate or product quality.

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*Transgenic Animals.* Our nuclear transfer technology can be applied to clone animals that have been genetically engineered to produce proteins for human therapeutic or industrial use. For example, herds which carry the genes to make human antibodies could be cloned, thereby allowing for the large-scale production of therapeutic antibodies or vaccines.

*Xenotransplantation.* Our nuclear transfer technology can be used for applications in xenotransplantation to create animals whose cells, tissues or organs could be used in human organ transplantation settings. This approach could be used either as a bridge to human organ transplantation or as a long-term therapy.

In previous years, we granted a number of licenses to our nuclear transfer technology to companies who are utilizing it for applications in agriculture and production of biologicals. In 2005, following successes in three patent interference proceedings, we formed a new joint venture company, stART Licensing, Inc. (stART), with Exeter Life Sciences Inc. stART is exclusively focused on managing and licensing intellectual property rights for animal cloning, including our nuclear transfer technology and rights conveyed to stART by Exeter Life Sciences.

We received an upfront license payment when stART was created and own 49.9% of stART. We will be entitled to a proportionate share of any revenues distributed by stART. We have retained all rights for use of the technology in human cells.

### Patents and Proprietary Technology

A broad intellectual property portfolio of issued patents and pending patent applications supports our product development and out-licensing activities. We currently own or have licensed over 130 issued or allowed United States patents, 200 granted or accepted foreign patents and 440 patent applications that are pending around the world.

Our policy is to seek appropriate patent protection for inventions in our principal technology platforms □ telomerase, embryonic stem cells and nuclear transfer □ as well as ancillary technologies that support these platforms or otherwise provide a competitive advantage to us. We achieve this by filing patent applications for discoveries made by our scientists, as well as those that we make in conjunction with our scientific collaborators and strategic partners. Typically, although not always, we file patent applications in the United States and internationally through the Patent Cooperation Treaty. In addition, where appropriate we try to obtain licenses from other organizations to patent filings that may be useful in advancing our scientific and product development programs.

Our telomerase platform is the mainstay of our own oncology program and it serves as the basis for other product opportunities. Our patent portfolio includes over 100 issued or allowed United States patents, 150 granted or accepted foreign patents and over 150 patent applications pending worldwide relating to our telomerase product opportunities. The foundational patents include those covering the cloned genes that encode the RNA component (hTR) and the catalytic protein component (hTERT) of human telomerase. Related issued and pending patents cover cells that are immortalized by expression of recombinant hTERT, cancer diagnostics based on detecting the expression of telomerase in cancer cells, the use of hTERT as a cancer vaccine, the use of the hTERT promoter to power cancer-killing genes and viruses, and telomerase inhibitors for use as cancer therapeutics. We own issued patents that cover the sequences of GRN163 and GRN163L, as well as patents covering the chemistry that is used to build these oligonucleotides. We have a co-exclusive license to the dendritic cell-loading technology used in our telomerase cancer vaccine. Recently filed patent applications covering the telomerase-activating compounds TAT0001 and TAT0002 that we discovered in collaboration with our colleagues at the Hong Kong University of Science and Technology have been exclusively licensed to our joint venture company, TAT, for therapeutic applications.

Our human embryonic stem cell platform is protected by patents rights that we either own or have licensed. The patents that we have licensed include foundational hESC patents that arose from work that we funded at the University of Wisconsin-Madison. We have also filed patent applications to protect technologies developed by our scientists in our ongoing efforts to develop products based on hESCs. By way of example, these patent applications cover technologies that we believe will facilitate the commercial-scale production of hESCs, such as methods for growing the cells without the need for cell feeder layers. Patent applications that we own or have licensed also cover cell types that can be made from hESCs, including hepatocytes (liver cells), cardiomyocytes (heart muscle cells), neural cells (nerve cells, including dopaminergic neurons and oligodendrocytes), chondrocytes (cartilage cells), pancreatic islet cells, osteoblasts (bone cells) and hematopoietic cells (blood-forming cells). Currently our portfolio includes over 230 patent applications pending around the world covering various aspects of our stem cell

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technology. Examples of granted stem cell patents that we own include U.S. Patents Nos. 6,458,589 and 6,506,574 relating to hESC-derived hepatocytes; 6,800,480 relating to the feeder-free growth of hESCs; and 6,833,269 covering methods of producing neural cells from hESCs.

Our third technology platform, nuclear transfer, is protected in part by the patent rights that we acquired in 1999 with the acquisition of Roslin Bio-Med, which we now operate as Geron Bio-Med. Five United States patents have now issued for this technology, and 38 foreign patents have been granted or accepted. In addition, we have more than 45 pending patent applications worldwide relating to nuclear transfer, arising both from the acquired patent rights and subsequent research that we funded at the Roslin Institute. As discussed above, these patent

rights are now a major asset of stART Licensing, Inc., the joint venture company that we created in 2005 for the purpose of managing and licensing intellectual property rights for animal cloning.

We endeavor to monitor worldwide patent filings by third parties that are relevant to our business. Based on this monitoring, we may determine that an action is appropriate to protect our business interests. Such actions may include the filing of oppositions against the grant of a patent in overseas jurisdictions, and the filing of a request for the declaration of an interference with a U.S. patent application or issued patent. Similarly, third parties may take similar actions against our patents. By way of example, in 2005 we were involved in interference proceedings that we had initiated at the U.S. Patent and Trademark Office involving patents and patent applications for nuclear transfer technology; judgments in those actions were entered in our favor, and the other party has appealed the judgments in U.S. District Court. We are currently also involved in patent opposition proceedings before the European Patent Office, the Australian Patent Office and the New Zealand Patent Office for patents relating to nuclear transfer, telomerase, and hESC-related technologies.

### **Government Regulation**

Regulation by governmental authorities in the United States and other countries is a significant factor in the development, manufacture and marketing of our proposed products and in our ongoing research and product development activities. The nature and extent to which such regulation applies to us will vary depending on the nature of any products which may be developed by us. We anticipate that many, if not all, of our proposed products will require regulatory approval by governmental agencies prior to commercialization. In particular, human therapeutic products are subject to rigorous preclinical and clinical testing and other approval procedures of the FDA, and similar regulatory authorities in European and other countries. Various governmental statutes and regulations also govern or influence testing, manufacturing, safety, labeling, storage and recordkeeping related to such products and their marketing. The process of obtaining these approvals and the subsequent compliance with appropriate statutes and regulations require the expenditure of substantial time and money, and there can be no guarantee that approvals will be granted.

### **FDA Approval Process**

Prior to commencement of clinical studies involving humans, preclinical testing of new pharmaceutical products is generally conducted on animals in the laboratory to evaluate the potential efficacy and safety of the product candidate. The results of these studies are submitted to the FDA as a part of an IND application, which must become effective before clinical testing in humans can begin. Typically, human clinical evaluation involves a time-consuming and costly three-phase process. In Phase 1, clinical trials are conducted with a small number of people to assess safety and to evaluate the pattern of drug distribution and metabolism within the body. In Phase 2, clinical trials are conducted with groups of patients afflicted with a specific disease in order to determine preliminary efficacy, optimal dosages and expanded evidence of safety. (In some cases, an initial trial is conducted in diseased patients to assess both preliminary efficacy and preliminary safety and patterns of drug metabolism and distribution, in which case it is referred to as a Phase 1-2 trial.) In Phase 3, large-scale, multi-center, comparative trials are conducted with patients afflicted with a target disease in order to provide enough data to demonstrate the efficacy and safety required by the FDA. The FDA closely monitors the progress of each of the three phases of clinical testing and may, at its discretion, re-evaluate, alter, suspend, or terminate the testing based upon the data which have been accumulated to that point and its assessment of the risk/benefit ratio to the patient. Monitoring of all aspects of the study to minimize risks is a continuing process. All adverse events must be reported to the FDA.

The results of the preclinical and clinical testing on a non-biologic drug and certain diagnostic drugs are submitted to the FDA in the form of a New Drug Application (NDA) for approval prior to commencement of commercial sales. In the case of vaccines or gene and cell therapies, the results of clinical trials are submitted as a Biologics License Application (BLA). In responding to a NDA or BLA, the FDA may grant marketing approval, request additional information or refuse to approve if the FDA determines that the application does not satisfy its regulatory approval criteria. There can be no assurance that approvals will be granted on a timely basis, if at all, for any of our proposed products.

### **European and Other Regulatory Approval**

Whether or not FDA approval has been obtained, approval of a product by comparable regulatory authorities in Europe and other countries will likely be necessary prior to commencement of marketing the product in such countries. The regulatory authorities in each country may impose their own requirements and may refuse to grant an approval, or may require additional data before granting it, even though the relevant product has been approved by the FDA or another authority. As with the FDA, the regulatory authorities in the European Union (EU) and other developed countries have lengthy approval processes for pharmaceutical products. The process for gaining approval in particular countries varies, but generally follows a similar sequence to that described for FDA approval. In Europe, the European Committee for Proprietary Medicinal Products provides a mechanism for EU-member states to exchange information on all aspects of product licensing. The EU has established a European agency for the evaluation of medical products, with both a centralized community procedure and a decentralized procedure, the latter being based on the principle of licensing within one member country followed by mutual recognition by the other member countries.

### **Other Regulations**

We are also subject to various United States federal, state, local and international laws, regulations and recommendations relating to safe working conditions, laboratory and manufacturing practices and the use and disposal of hazardous or potentially hazardous substances, including radioactive compounds and infectious disease agents, used in connection with our research work. We cannot accurately predict the extent of government regulation which might result from future legislation or administrative action.

### **Scientific Consultants**

We have consulting agreements with a number of leading academic scientists and clinicians. These individuals serve as key consultants or as members of [clinical focus group panels] with respect to our product development programs and strategies. They are distinguished scientists and clinicians with expertise in numerous scientific fields, including embryonic stem cells, nuclear transfer and telomere and telomerase biology, as well as developmental biology, cellular biology and molecular biology.

We use consultants to provide us with expert advice and consultation on our scientific programs and strategies, as well as on the ethical aspects of our work. They also serve as important contacts for us throughout the broader scientific community.

We retain each consultant according to the terms of a consulting agreement. Under such agreements, we pay them a consulting fee and reimburse them for out-of-pocket expenses incurred in performing their services for us. In addition, some consultants hold options to purchase our common stock, subject to the vesting requirements contained in the consulting agreements. Our consultants are employed by institutions other than ours, and therefore may have commitments to, or consulting or advisory agreements with, other entities or academic institutions that may limit their availability to us.

### **Executive Officers of the Company**

The following table sets forth certain information with respect to our executive officers:

**Thomas B. Okarma, Ph.D., M.D.**, has served as our President, Chief Executive Officer and a member of our board of directors since July 1999. He is also a director of Geron Bio-Med Limited, a United Kingdom company and our wholly-owned subsidiary, TA Therapeutics, Ltd, a Hong Kong company and a joint venture between us and Biotechnology Research Corporation of Hong Kong. From May 1998 until July 1999, Dr. Okarma was the Vice President of Research and Development. From December 1997 until May 1998, Dr. Okarma was Vice President of Cell Therapies. Dr. Okarma currently serves on the Board of BIO and is Chairman of the Board of Overseers of Dartmouth Medical School. From 1985 until joining us, Dr. Okarma, the scientific founder of Applied Immune Sciences, Inc., served initially as Vice President of Research and Development of Applied Immune Sciences and then as chairman, chief executive officer and a director of Applied Immune Sciences, until 1995 when it was

acquired by Rhone-Poulenc Rorer. Dr. Okarma was a Senior Vice President at Rhone-Poulenc Rorer from the time of the acquisition of Applied Immune Sciences until December 1996. From 1980 to 1985, Dr. Okarma was a member of the faculty of the Department of Medicine at Stanford University School of Medicine. Dr. Okarma holds a A.B. from Dartmouth College and a M.D. and Ph.D. from Stanford University.

**David L. Greenwood** has served as our Chief Financial Officer, Treasurer and Secretary since August 1995 and our Executive Vice President since January 2004. He is also a director of Geron Bio-Med Limited, our joint ventures TA Therapeutics, Ltd. and stART Licensing, Inc., and Clone International and XenoTrans, Ltd., both Australian companies. From August 1999 until January 2004, Mr. Greenwood also served as our Senior Vice President of Corporate Development. From April 1997 until August 1999, Mr. Greenwood served as our Vice President of Corporate Development. He also serves on the Board of Regents for Pacific Lutheran University. From 1979 until joining us, Mr. Greenwood held various positions with J.P. Morgan & Co. Incorporated, an international banking firm. Mr. Greenwood holds a B.A. from Pacific Lutheran University and a M.B.A. from Harvard Business School.

**David J. Earp, J.D., Ph.D.**, has served as our Senior Vice President of Business Development and Chief Patent Counsel since May 2004. He is also a director of TA Therapeutics, Ltd. and stART Licensing, Inc. From October 1999 until May 2004, Dr. Earp served as our Vice President of Intellectual Property. From 1992 until joining us in June 1999, Dr. Earp was with the intellectual property law firm of Klarquist Sparkman Campbell Leigh and Whinston, LLP where his practice focused on biotechnology patent law. Dr. Earp holds a B.Sc. in microbiology from the University of Leeds, England, a Ph.D. from the biochemistry department of The University of Cambridge, England, and conducted postdoctoral research at the University of California at Berkeley/U.S.D.A. Plant Gene Expression Center. He received his J.D. from the Northwestern School of Law of Lewis and Clark College in Portland, Oregon.

**Jane S. Lebkowski, Ph.D.**, has served as our Senior Vice President of Regenerative Medicine since January 2004. From August 1999 until January 2004, Dr. Lebkowski served as our Vice President of Regenerative Medicine. From April 1998 until August 1999, Dr. Lebkowski served as our Senior Director, Cell and Gene Therapies. From 1986 until joining us in 1995, Dr. Lebkowski served as Vice President, Research and Development at Applied Immune Sciences. In 1995, Applied Immune Sciences was acquired by Rhone-Poulenc Rorer, at which time Dr. Lebkowski was appointed Vice President, Discovery & Product Development. Dr. Lebkowski received a B.S. in chemistry and biology from Syracuse University and received her Ph.D. from Princeton University.

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**Calvin B. Harley, Ph.D.**, has served as our Chief Scientific Officer since July 1996. From May 1994 until July 1996, Dr. Harley served as our Vice President of Research. From April 1993 until May 1994, Dr. Harley served as our Director, Cell Biology. From 1989 until joining us, Dr. Harley was an Associate Professor of Biochemistry at McMaster University, and from 1982 to 1989, was an Assistant Professor of Biochemistry at McMaster University. Dr. Harley was also an executive of the Canadian Association on Gerontology, Division of Biological Sciences from 1987 to 1991. Dr. Harley holds a B.S. from the University of Waterloo and a Ph.D. from McMaster University, and conducted postdoctoral work at the University of Sussex and the University of California at San Francisco.

**Melissa A. Kelly Behrs** has served as our Vice President of Oncology since January 2003. From April 2002 until January 2003, Ms. Behrs served as our Vice President of Corporate Development. From April 2001 until April 2002, Ms. Behrs served as our General Manager of Research and Development Technologies. Ms. Behrs joined us in November 1998 as Director of Corporate Development. From 1990 to 1998, Ms. Behrs worked at Genetics Institute, Inc., serving initially as Assistant Treasurer and then as Associate Director of Preclinical Operations where she was responsible for all business development, regulatory, and project management activities for the Preclinical Development function. Ms. Behrs received a B.S. in Accounting from Boston College and an M.B.A. in finance from Babson College.

## **Employees**

As of December 31, 2005, we had 90 full-time employees of whom 33 hold Ph.D. degrees and 14 hold other advanced degrees. Of our total workforce, 65 employees were engaged in, or directly support, our research and

development activities and 25 employees were engaged in business development, finance and administration. We also retain outside consultants. None of our employees are covered by a collective bargaining agreement, nor have we experienced work stoppages. We consider relations with our employees to be good.

#### **ADDITIONAL FACTORS THAT MAY AFFECT FUTURE RESULTS**

Our business is subject to various risks, including those described below. You should carefully consider the following risk factors, together with all of the other information included in this Form 10-K. Any of these risks could materially adversely affect our business, operating results and financial condition.

##### ***Our business is at an early stage of development.***

Our business is at an early stage of development, in that we do not yet have product candidates in late-stage clinical trials or on the market. One of our product candidates, a telomerase therapeutic cancer vaccine, is being studied in a Phase 1-2 clinical trial being conducted by an academic institution. We are just beginning clinical testing in a Phase 1-2 clinical trial of our lead anti-cancer compound, GRN163L, in patients with chronic lymphocytic leukemia. We have no other product candidates in clinical testing. Our ability to develop product candidates that progress to and through clinical trials is subject to our ability to, among other things:

- succeed in our research and development efforts;
- select therapeutic compounds or cell therapies for development;
- obtain required regulatory approvals;
- manufacture product candidates; and
- collaborate successfully with clinical trial sites, academic institutions, physician investigators, clinical research organizations and other third parties.

Potential lead drug compounds or other product candidates and technologies will require significant preclinical and clinical testing prior to regulatory approval in the United States and other countries. Our product candidates may prove to have undesirable and unintended side effects or other characteristics adversely affecting their safety, efficacy or cost-effectiveness that could prevent or limit their commercial use. In addition, our product candidates may not prove to be more effective for treating disease or injury than current therapies. Accordingly, we may have to delay or abandon efforts to research, develop or obtain regulatory approval to market our product candidates. In addition, we will need to determine whether any of our potential products can be manufactured in commercial quantities at an acceptable cost. Our research and development efforts may not result in a product that can be approved by regulators or

marketed successfully. Because of the significant scientific, regulatory and commercial milestones that must be reached for any of our development programs to be successful, any program may be abandoned, even after we have expended significant resources on the program, such as our investments in telomerase technology and human embryonic stem cells, which could cause a sharp drop in our stock price.

The science and technology of telomere biology and telomerase, human embryonic stem cells and nuclear transfer are relatively new. There is no precedent for the successful commercialization of therapeutic product candidates based on our technologies. These development programs are therefore particularly risky. In addition, we, our licensees or our collaborators must undertake significant research and development activities to develop product candidates based on our technologies, which will require additional funding and may take years to accomplish, if ever.

***We have a history of losses and anticipate future losses, and continued losses could impair our ability to sustain operations.***

We have incurred operating losses every year since our operations began in 1990. As of December 31, 2005, our accumulated deficit was approximately \$369.6 million. Losses have resulted principally from costs incurred in connection with our research and development activities and from general and administrative costs associated with our operations. We expect to incur additional operating losses and, as our development efforts and clinical testing activities continue, our operating losses may increase in size.

Substantially all of our revenues to date have been research support payments under collaboration agreements and revenues from our licensing arrangements. We may be unsuccessful in entering into any new corporate collaboration or license agreement that results in revenues. We do not expect that the revenues generated from these arrangements will be sufficient alone to continue or expand our research or development activities and otherwise sustain our operations.

While we receive royalty revenue from licenses of diagnostic product candidates, telomerase-immortalized cell lines and other licensing activities, we do not currently expect to receive sufficient royalty revenues from these licenses to sustain our operations. Our ability to continue or expand our research activities and otherwise sustain our operations is dependent on our ability, alone or with others, to, among other things, manufacture and market therapeutic products.

We also expect to experience negative cash flow for the foreseeable future as we fund our operating losses and capital expenditures. This will result in decreases in our working capital, total assets and stockholders' equity, which may not be offset by future financings. We will need to generate significant revenues to achieve profitability. We may not be able to generate these revenues, and we may never achieve profitability. Our failure to achieve profitability could negatively impact the market price of our common stock. Even if we do become profitable, we cannot assure you that we would be able to sustain or increase profitability on a quarterly or annual basis.

***We will need additional capital to conduct our operations and develop our products, and our ability to obtain the necessary funding is uncertain.***

We will require substantial capital resources in order to conduct our operations and develop our candidates, and we cannot assure you that our existing capital resources, proceeds from our recent public offering, interest income and equipment financing arrangements will be sufficient to fund our current and planned operations. The timing and degree of any future capital requirements will depend on many factors, including:

- the accuracy of the assumptions underlying our estimates for our capital needs in 2006 and beyond;
- the magnitude and scope of our research and development programs;
- the progress we make in our research and development programs and in preclinical development and clinical trials;
- our ability to establish, enforce and maintain strategic arrangements for research, development, clinical testing, manufacturing and marketing;
- the number and type of product candidates that we pursue;
- the time and costs involved in obtaining regulatory approvals; and
- the costs involved in preparing, filing, prosecuting, maintaining, defending and enforcing patent claims.

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We do not have any committed sources of capital. Additional financing through strategic collaborations, public or private equity financings, capital lease transactions or other financing sources may not be available on acceptable terms, or at all. The receptivity of the public and private equity markets to proposed financings is substantially affected by the general economic, market and political climate and by other factors which are unpredictable and over which we have no control. Additional equity financings, if we obtain them, could result in



significant dilution to stockholders. Further, in the event that additional funds are obtained through arrangements with collaborative partners, these arrangements may require us to relinquish rights to some of our technologies, product candidates or proposed products that we would otherwise seek to develop and commercialize ourselves. If sufficient capital is not available, we may be required to delay, reduce the scope of or eliminate one or more of our programs, any of which could have a material adverse effect on our business.

***We do not have experience as a company conducting large-scale clinical trials, or in other areas required for the successful commercialization and marketing of our product candidates.***

We will need to receive regulatory approval for any product candidates before they may be marketed and distributed. Such approval will require, among other things, completing carefully controlled and well-designed clinical trials demonstrating the safety and efficacy of each product candidate. This process is lengthy, expensive and uncertain. We have no experience as a company in conducting large-scale, late stage clinical trials, and our experience with early-stage clinical trials with small numbers of patients is limited. Such trials would require either additional financial and management resources, or reliance on third-party clinical investigators, clinical research organizations (CROs) or consultants. Relying on third-party clinical investigators or CROs may force us to encounter delays that are outside of our control.

We also do not currently have marketing and distribution capabilities for our product candidates. Developing an internal sales and distribution capability would be an expensive and time-consuming process. We may enter into agreements with third parties that would be responsible for marketing and distribution. However, these third parties may not be capable of successfully selling any of our product candidates.

***Because we or our collaborators must obtain regulatory approval to market our products in the United States and other countries, we cannot predict whether or when we will be permitted to commercialize our products.***

Federal, state and local governments in the United States and governments in other countries have significant regulations in place that govern many of our activities and may prevent us from creating commercially viable products from our discoveries.

The regulatory process, particularly for biopharmaceutical product candidates like ours, is uncertain, can take many years and requires the expenditure of substantial resources. Any product candidate that we or our collaborators develop must receive all relevant regulatory agency approvals before it may be marketed in the United States or other countries. Biological drugs and non-biological drugs are rigorously regulated. In particular, human pharmaceutical therapeutic product candidates are subject to rigorous preclinical and clinical testing and other requirements by the FDA in the United States and similar health authorities in other countries in order to demonstrate safety and efficacy. Because certain of our product candidates involve the application of new technologies or are based upon a new therapeutic approach, they may be subject to substantial additional review by various government regulatory authorities, and, as a result, the process of obtaining regulatory approvals for them may proceed more slowly than for product candidates based upon more conventional technologies. We may never obtain regulatory approval to market our product candidates.

Data obtained from preclinical and clinical activities is susceptible to varying interpretations that could delay, limit or prevent regulatory agency approvals. In addition, delays or rejections may be encountered as a result of changes in regulatory agency policy during the period of product development and/or the period of review of any application for regulatory agency approval for a product candidate. Delays in obtaining regulatory agency approvals could:

- significantly harm the marketing of any products that we or our collaborators develop;
- impose costly procedures upon our activities or the activities of our collaborators;
- diminish any competitive advantages that we or our collaborators may attain; or
- adversely affect our ability to receive royalties and generate revenues and profits.

Even if we commit the necessary time and resources, the required regulatory agency approvals may not be obtained for any product candidates developed by or in collaboration with us. If we obtain regulatory agency approval for a new product, this approval may entail limitations on the indicated uses for which it can be marketed that could limit the potential commercial use of the product.

Furthermore, approved products and their manufacturers are subject to continual review, and discovery of previously unknown problems with a product or its manufacturer may result in restrictions on the product or manufacturer, including withdrawal of the product from the market. The sale by us or our collaborators of any commercially viable product will be subject to government regulation from several standpoints, including the processes of:

- manufacturing;
- advertising and promoting;
- selling and marketing;
- labeling; and
- distribution.

If, and to the extent that, we are unable to comply with these regulations, our ability to earn revenues will be materially and negatively impacted.

Failure to comply with regulatory requirements can result in severe civil and criminal penalties, including but not limited to:

- recall or seizure of products;
- injunction against manufacture, distribution, sales and marketing; and
- criminal prosecution.

The imposition of any of these penalties could significantly impair our business, financial condition and results of operations.

***Entry into clinical trials with one or more product candidates may not result in any commercially viable products.***

We may never generate revenues from product sales because of a variety of risks inherent in our business, including the following risks:

- clinical trials may not demonstrate the safety and efficacy of our product candidates;
- completion of clinical trials may be delayed, or costs of clinical trials may exceed anticipated amounts;
- we may not be able to obtain regulatory approval of our products, or may experience delays in obtaining such approvals;
- we may not be able to manufacture our product candidates economically on a commercial scale;
- we and any licensees of ours may not be able to successfully market our products;
- physicians may not prescribe our product candidates, or patients or third party payors may not accept such product candidates;
- others may have proprietary rights which prevent us from marketing our products; and

- competitors may sell similar, superior or lower-cost products.

With respect to our telomerase cancer vaccine product candidate, our clinical testing has been limited to early-stage testing for a small number of patients. The results of this testing may not be indicative of successful outcomes in later stage trials. We are just beginning clinical testing for our Phase 1-2 clinical trial of our telomerase inhibitor compound, GRN163L. This is the first clinical trial for this product and no results have been received. We have not commenced clinical testing for any other product candidate.

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***Restrictions on the use of human embryonic stem cells, political commentary and the ethical, legal and social implications of research involving human embryonic stem cells could prevent us from developing or gaining acceptance for commercially viable products based upon such stem cells and adversely affect the market price of our common stock.***

Some of our most important programs involve the use of stem cells that are derived from human embryos. The use of human embryonic stem cells gives rise to ethical, legal and social issues regarding the appropriate use of these cells. Our research related to human embryonic stem cells may become the subject of adverse commentary or publicity, which could significantly harm the market price for our common stock.

Some political and religious groups have voiced opposition to our technology and practices. We use stem cells derived from human embryos that have been created for *in vitro* fertilization procedures but are no longer desired or suitable for that use and are donated with appropriate informed consent for research use. Many research institutions, including some of our scientific collaborators, have adopted policies regarding the ethical use of human embryonic tissue. These policies may have the effect of limiting the scope of research conducted using human embryonic stem cells, thereby impairing our ability to conduct research in this field.

In addition, the United States government and its agencies have until recently refused to fund research which involves the use of human embryonic tissue. President Bush announced on August 9, 2001 that he would permit federal funding of research on human embryonic stem cells using the limited number of embryonic stem cell lines that had already been created, but relatively few federal grants have been made so far. The President's Council on Bioethics will monitor stem cell research, and the guidelines and regulations it recommends may include restrictions on the scope of research using human embryonic or fetal tissue. Certain states are considering, or have in place, legislation relating to stem cell research, including California whose voters approved Proposition 71 to provide state funds for stem cell research in November 2004. It is not yet clear what, if any, effect such state actions may have on our ability to commercialize stem cell products. In the United Kingdom and other countries, the use of embryonic or fetal tissue in research (including the derivation of human embryonic stem cells) is regulated by the government, whether or not the research involves government funding.

Government-imposed restrictions with respect to use of embryos or human embryonic stem cells in research and development could have a material adverse effect on us, including:

- harming our ability to establish critical partnerships and collaborations;
- delaying or preventing progress in our research and development; and
- causing a decrease in the price of our stock.

***Impairment of our intellectual property rights may adversely affect the value of our technologies and product candidates and limit our ability to pursue their development.***

Protection of our proprietary technology is critically important to our business. Our success will depend in part on our ability to obtain and enforce our patents and maintain trade secrets, both in the United States and in other countries. The patent positions of pharmaceutical and biopharmaceutical companies, including ours, are highly uncertain and involve complex legal and technical questions. In particular, legal principles for biotechnology patents in the United States and in other countries are evolving, and the extent to which we will be able to obtain patent coverage to protect our technology, or enforce issued patents, is uncertain.

For example, the European Patent Convention prohibits the granting of European patents for inventions that concern [uses of human embryos for industrial or commercial purposes.] The European Patent Office is presently interpreting this prohibition broadly, and is applying it to reject patent claims that pertain to human embryonic stem cells. However, this broad interpretation is being challenged through the European Patent Office appeals system. As a result, we do not yet know whether or to what extent we will be able to obtain European patent protection for our human embryonic stem cell technologies in Europe. Further, our patents may be challenged, invalidated or circumvented, and our patent rights may not provide proprietary protection or competitive advantages to us. In the event that we are unsuccessful in obtaining and enforcing patents, our business would be negatively impacted.

Publication of discoveries in scientific or patent literature tends to lag behind actual discoveries by at least several months and sometimes several years. Therefore, the persons or entities that we or our licensors name as inventors in our patents and patent applications may not have been the first to invent the inventions disclosed in the patent applications or patents, or the first to file patent applications for these inventions. As a result, we may not be able to obtain patents for discoveries that we otherwise would consider patentable and that we consider to be extremely significant to our future success.

Where several parties seek patent protection for the same technology, the U.S. Patent Office may declare an interference proceeding in order to ascertain the party to which the patent should be issued. Patent interferences are typically complex, highly contested legal proceedings, subject to appeal. They are usually expensive and prolonged, and can cause significant delay in the issuance of patents. Moreover, parties that receive an adverse decision in an interference can lose important patent rights. Our pending patent applications, or our issued patents, may be drawn into interference proceedings which may delay or prevent the issuance of patents, or result in the loss of issued patent rights. If more groups become engaged in scientific research related to telomerase biology and/or embryonic stem cells, the number of patent filings by such groups and therefore the risk of our patents or applications being drawn into interferences may increase.

The interference process can also be used to challenge a patent that has been issued to another party. For example, we recently were party to two interferences declared by the U.S. Patent Office at our request. These interferences involved two of our pending applications relating to nuclear transfer technology and two issued patents, held by the University of Massachusetts (U. Mass) and licensed to Advanced Cell Technology, Inc. (ACT) of Worcester, Massachusetts. We requested these interferences in order to clarify our patent rights to this technology and to facilitate licensing to companies wishing to utilize this technology in animal cloning. The Board of Patent Appeals and Interferences issued final judgments in each of these cases, finding in both instances that all of the claims in the U. Mass patents in question were unpatentable, and upholding the patentability of Geron's pending claims. These judgments effectively invalidated the two U. Mass patents. Both judgments have been appealed by ACT in the U.S. District Court for the District of Columbia. We have also filed requests for interference with other U. Mass patents in the same field. As in any legal proceeding, the outcome of these interferences and the appeals is uncertain. In March 2002, an interference was declared involving one of our nuclear transfer patent applications and a patent application held by Infigen Inc. That interference was resolved in 2004 with a final judgment in our favor; that judgment was not appealed.

Outside of the United States, certain jurisdictions, such as Europe, New Zealand and Australia, permit oppositions to be filed against the granting of patents. Because our intent is to commercialize products internationally, securing both proprietary protection and freedom to operate outside of the United States is important to our business. We are involved in both opposing the grant of patents to others through such opposition proceedings and in defending our patent applications against oppositions filed by others. For example, we have filed an opposition to a European patent granted to GemVax AS, a Norwegian company, relating to the use of telomerase peptides for the treatment and prophylaxis of cancer. GemVax was acquired in 2005 by Pharmexa, a Danish company. Pharmexa has announced plans to pursue a telomerase-targeted cancer vaccine. GemVax/Pharmexa has filed an opposition to a European patent granted to us relating to telomerase, which includes claims to the use of telomerase in cancer vaccines. We are involved in other patent oppositions in Europe, Australia and New Zealand, both as the opposing party and the party whose patent is being opposed. Successful challenges to our patents through opposition proceedings could result in a loss of patent rights in the relevant jurisdiction(s). If we are unsuccessful in the oppositions we bring against the patents of other parties, we may be subject to litigation, or otherwise prevented from commercializing potential products in the relevant jurisdiction, or may be required to obtain licenses to those patents or develop or obtain alternative technologies,

any of which could harm our business. As more groups become engaged in scientific research and product development in the areas of telomerase biology and/or embryonic stem cells, the risk of our patents being challenged through patent oppositions may increase.

Furthermore, if interferences, oppositions or other challenges to our patent rights are not resolved promptly in our favor, our existing business relationships may be jeopardized and we could be delayed or prevented from entering into new collaborations or from commercializing certain products, which could materially harm our business.

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Patent litigation may also be necessary to enforce patents issued or licensed to us or to determine the scope and validity of our proprietary rights or the proprietary rights of others. We may not be successful in any patent litigation. Patent litigation can be extremely expensive and time-consuming, even if the outcome is favorable to us. An adverse outcome in a patent litigation, patent opposition, patent interference, or any other proceeding in a court or patent office could subject our business to significant liabilities to other parties, require disputed rights to be licensed from other parties or require us to cease using the disputed technology, any of which could severely harm our business.

***If we fail to meet our obligations under license agreements, we may lose our rights to key technologies on which our business depends.***

Our business depends on several critical technologies that are based in part on patents licensed from third parties. Those third-party license agreements impose obligations on us, such as payment obligations and obligations to diligently pursue development of commercial products under the licensed patents. If a licensor believes that we have failed to meet our obligations under a license agreement, the licensor could seek to limit or terminate our license rights, which could lead to costly and time-consuming litigation and, potentially, a loss of the licensed rights. During the period of any such litigation our ability to carry out the development and commercialization of potential products could be significantly and negatively affected. If our license rights were restricted or ultimately lost, our ability to continue our business based on the affected technology platform would be severely adversely affected.

***We may be subject to litigation that will be costly to defend or pursue and uncertain in its outcome.***

Our business may bring us into conflict with our licensees, licensors, or others with whom we have contractual or other business relationships, or with our competitors or others whose interests differ from ours. If we are unable to resolve those conflicts on terms that are satisfactory to all parties, we may become involved in litigation brought by or against us. That litigation is likely to be expensive and may require a significant amount of management's time and attention, at the expense of other aspects of our business. The outcome of litigation is always uncertain, and in some cases could include judgments against us that require us to pay damages, enjoin us from certain activities, or otherwise affect our legal or contractual rights, which could have a significant adverse effect on our business.

***We may be subject to infringement claims that are costly to defend, and which may limit our ability to use disputed technologies and prevent us from pursuing research and development or commercialization of potential products.***

Our commercial success depends significantly on our ability to operate without infringing patents and the proprietary rights of others. Our technologies may infringe the patents or proprietary rights of others. In addition, we may become aware of discoveries and technology controlled by third parties that are advantageous to our programs. In the event our technologies infringe the rights of others or we require the use of discoveries and technology controlled by third parties, we may be prevented from pursuing research, development or commercialization of potential products or may be required to obtain licenses to those patents or other proprietary rights or develop or obtain alternative technologies. We have obtained licenses from several universities and companies for technologies that we anticipate incorporating into our potential products, and are in negotiation for licenses to other technologies. We may not be able to obtain a license to patented technology on commercially favorable terms, or at all. If we do not obtain a necessary license, we may need to redesign our technologies or obtain rights to alternate technologies, the research and adoption of which could cause delays in

product development. In cases where we are unable to license necessary technologies, we could be prevented from developing certain potential products. Our failure to obtain alternative technologies or a license to any technology that we may require to research, develop or commercialize our product candidates would significantly and negatively affect our business.

***Much of the information and know-how that is critical to our business is not patentable and we may not be able to prevent others from obtaining this information and establishing competitive enterprises.***

We sometimes rely on trade secrets to protect our proprietary technology, especially in circumstances in which we believe patent protection is not appropriate or available. We attempt to protect our proprietary technology in part by confidentiality agreements with our employees, consultants, collaborators and contractors. We cannot assure you that these agreements will not be breached, that we would have adequate remedies for any breach, or that our trade secrets will not otherwise become known or be independently discovered by competitors, any of which would harm our business significantly.

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***We depend on our collaborators and joint venture partners to help us develop and test our product candidates, and our ability to develop and commercialize potential products may be impaired or delayed if collaborations are unsuccessful.***

Our strategy for the development, clinical testing and commercialization of our product candidates requires that we enter into collaborations with corporate or joint venture partners, licensors, licensees and others. We are dependent upon the subsequent success of these other parties in performing their respective responsibilities and the continued cooperation of our partners. By way of examples: Cell Genesys is principally responsible for developing oncolytic virus therapeutics utilizing the telomerase promoter; Roche is responsible for developing cancer diagnostics using our telomerase technology; and Duke is responsible for conducting the current clinical trials of our dendritic cell-based telomerase vaccine. Our collaborators may not cooperate with us or perform their obligations under our agreements with them. We cannot control the amount and timing of our collaborators' resources that will be devoted to activities related to our collaborative agreements with them. Our collaborators may choose to pursue existing or alternative technologies in preference to those being developed in collaboration with us.

Under agreements with collaborators and joint venture partners, we may rely significantly on these parties to, among other activities:

- conduct research and development activities in conjunction with us;
- design and conduct advanced clinical trials in the event that we reach clinical trials;
- fund research and development activities with us;
- manage and license certain patent rights;
- pay us fees upon the achievement of milestones; and
- market with us any commercial products that result from our collaborations or joint ventures.

The development and commercialization of potential products will be delayed if collaborators or joint venture partners fail to conduct these activities in a timely manner or at all. For example, we recently terminated our collaboration with Dendreon Corporation because of its failure to meet diligence requirements in our agreement. In addition, our collaborators could terminate their agreements with us and we may not receive any development or milestone payments. If we do not achieve milestones set forth in the agreements, or if our collaborators breach or terminate their collaborative agreements with us, our business may be materially harmed.

***Our reliance on the activities of our non-employee consultants, research institutions, and scientific contractors, whose activities are not wholly within our control, may lead to delays in development of our product candidates.***

We rely extensively upon and have relationships with scientific consultants at academic and other institutions, some of whom conduct research at our request, and other consultants with expertise in clinical development strategy or other matters. These consultants are not our employees and may have commitments to, or consulting or advisory contracts with, other entities that may limit their availability to us. We have limited control over the activities of these consultants and, except as otherwise required by our collaboration and consulting agreements, can expect only limited amounts of their time to be dedicated to our activities.

In addition, we have formed research collaborations with many academic and other research institutions throughout the world. These research facilities may have commitments to other commercial and non-commercial entities. We have limited control over the operations of these laboratories and can expect only limited amounts of their time to be dedicated to our research goals.

We also rely on other companies for certain process development, manufacturing or other technical scientific work, especially with respect to our telomerase inhibitor and telomerase vaccine programs. We have contracts with these companies that specify the work to be done and results to be achieved, but we do not have direct control over their personnel or operations.

If any of these third parties are unable or refuse to contribute to projects on which we need their help, our ability to generate advances in our technologies and develop our product candidates could be significantly harmed.

***The loss of key personnel could slow our ability to conduct research and develop product candidates.***

Our future success depends to a significant extent on the skills, experience and efforts of our executive officers and key members of our scientific staff. Competition for personnel is intense and we may be unable to retain our current personnel or attract or assimilate other highly qualified management and scientific personnel in the future. The loss of any or all of these individuals could harm our business and might significantly delay or prevent the achievement of research, development or business objectives.

We also rely on consultants and advisors who assist us in formulating our research and development and clinical strategy. We face intense competition for qualified individuals from numerous pharmaceutical, biopharmaceutical and biotechnology companies, as well as academic and other research institutions. We may not be able to attract and retain these individuals on acceptable terms. Failure to do so could materially harm our business.

***Potential restrictions or a ban on nuclear transfer could prevent us from benefiting financially from our research in this area.***

Our nuclear transfer technology could theoretically be used to produce human embryos for the derivation of embryonic stem cells (sometimes referred to as "therapeutic cloning") or cloned humans (sometimes referred to as "reproductive cloning"). The U.S. Congress has recently considered legislation that would ban human therapeutic cloning as well as reproductive cloning. Such a bill was passed by the House of Representatives, although not by the Senate. The July 2002 report of the President's Council on Bioethics recommended a four-year moratorium on therapeutic cloning. If human therapeutic cloning is restricted or banned, we will not be able to benefit from the scientific knowledge that would be generated by research in that area. Further, if regulatory bodies were to restrict or ban the sale of food products from cloned animals, our financial participation in the businesses of our nuclear transfer licensees or the value of our ownership in our joint venture, stART Licensing, could be significantly harmed.

***Our products are likely to be expensive to manufacture, and they may not be profitable if we are unable to significantly reduce the costs to manufacture them.***

Our telomerase inhibitor compound, GRN163L, and our hESC-based products are likely to be significantly more expensive to manufacture than most other drugs currently on the market today. Oligonucleotides are relatively large molecules with complex chemistry, and the cost of manufacturing even a short oligonucleotide

like GRN163L is considerably greater than the cost of making most small-molecule drugs. Our present manufacturing processes are conducted at a relatively small scale and are at an early stage of development. We hope to substantially reduce manufacturing costs through process improvements, as well as through scale increases. If we are not able to do so, however, and, depending on the pricing of the potential product, the profit margin on the telomerase inhibitor may be significantly less than that of most drugs on the market today. Similarly, we currently make differentiated cells from hESCs on a laboratory scale, at a high cost per unit of measure. The cell-based therapies we are developing based on hESCs will probably require large quantities of cells. We continue to develop processes to scale up production of the cells in a cost-effective way. We may not be able to charge a high enough price for any cell therapy product we develop, even if it is safe and effective, to make a profit. If we are unable to realize significant profits from our potential product candidates, our business would be materially harmed.

***Some of our competitors may develop technologies that are superior to or more cost-effective than ours, which may impact the commercial viability of our technologies and which may significantly damage our ability to sustain operations.***

The pharmaceutical and biotechnology industries are intensely competitive. Other pharmaceutical and biotechnology companies and research organizations currently engage in or have in the past engaged in efforts related to the biological mechanisms that are the focus of our programs in oncology and human embryonic stem cell therapies, including the study of telomeres, telomerase, human embryonic stem cells, and nuclear transfer. In addition, other products and therapies that could compete directly with the product candidates that we are seeking to develop and market currently exist or are being developed by pharmaceutical and biopharmaceutical companies and by academic and other research organizations.

Many companies are developing alternative therapies to treat cancer and, in this regard, are competitors of ours. According to public data from the FDA and NIH, there are more than 200 approved anti-cancer products on the market in the United States, and several thousand in clinical development.

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Many of the pharmaceutical companies developing and marketing these competing products (including GlaxoSmithKline, Bristol-Myers Squibb Company and Novartis AG, among others) have significantly greater financial resources and expertise than we do in:

- research and development;
- manufacturing;
- preclinical and clinical testing;
- obtaining regulatory approvals; and
- marketing.

Smaller companies may also prove to be significant competitors, particularly through collaborative arrangements with large and established companies. Academic institutions, government agencies and other public and private research organizations may also conduct research, seek patent protection and establish collaborative arrangements for research, clinical development and marketing of products similar to ours. These companies and institutions compete with us in recruiting and retaining qualified scientific and management personnel as well as in acquiring technologies complementary to our programs.

In addition to the above factors, we expect to face competition in the following areas:

- product efficacy and safety;
- the timing and scope of regulatory consents;



- availability of resources;
- reimbursement coverage;
- price; and
- patent position, including potentially dominant patent positions of others.

As a result of the foregoing, our competitors may develop more effective or more affordable products, or achieve earlier patent protection or product commercialization than we do. Most significantly, competitive products may render any product candidates that we develop obsolete, which would negatively impact our business and ability to sustain operations.

***We may not be able to obtain or maintain sufficient insurance on commercially reasonable terms or with adequate coverage against potential liabilities in order to protect ourselves against product liability claims.***

Our business exposes us to potential product liability risks that are inherent in the testing, manufacturing and marketing of human therapeutic and diagnostic products. We may become subject to product liability claims if the use of our potential products is alleged to have injured subjects or patients. This risk exists for product candidates tested in human clinical trials as well as potential products that are sold commercially. We currently have limited clinical trial liability insurance and we may not be able to maintain this type of insurance for any of our clinical trials. In addition, product liability insurance is becoming increasingly expensive. As a result, we may not be able to obtain or maintain product liability insurance in the future on acceptable terms or with adequate coverage against potential liabilities that could have a material adverse effect on our business.

***To be successful, our product candidates must be accepted by the health care community, which can be very slow to adopt or unreceptive to new technologies and products.***

Our product candidates and those developed by our collaborative partners, if approved for marketing, may not achieve market acceptance since hospitals, physicians, patients or the medical community in general may decide not to accept and utilize these products. The product candidates that we are attempting to develop represent substantial departures from established treatment methods and will

compete with a number of more conventional drugs and therapies manufactured and marketed by major pharmaceutical companies. The degree of market acceptance of any of our developed potential products will depend on a number of factors, including:

- our establishment and demonstration to the medical community of the clinical efficacy and safety of our product candidates;
- our ability to create products that are superior to alternatives currently on the market;
- our ability to establish in the medical community the potential advantage of our treatments over alternative treatment methods; and
- reimbursement policies of government and third-party payors.

If the health care community does not accept our potential products for any of the foregoing reasons, or for any other reason, our business would be materially harmed.

***If we fail to obtain acceptable prices or adequate reimbursement for our product candidates, the use of our potential products could be severely limited.***

Our ability to successfully commercialize our product candidates will depend significantly on our ability to obtain acceptable prices and the availability of reimbursement to the patient from third-party payors. Significant uncertainty exists as to the reimbursement status of newly-approved health care products, including pharmaceuticals. If our potential products are not considered cost-effective or if we fail to generate adequate third-party reimbursement for the users of our potential products and treatments, then we may be unable to maintain price levels sufficient to realize an appropriate return on our investment in product development.

In both U.S. and other markets, sales of our potential products, if any, will depend in part on the availability of reimbursement from third-party payors, examples of which include:

- government health administration authorities;
- private health insurers;
- health maintenance organizations; and
- pharmacy benefit management companies.

Both federal and state governments in the United States and governments in other countries continue to propose and pass legislation designed to contain or reduce the cost of health care. Legislation and regulations affecting the pricing of pharmaceuticals and other medical products may be adopted before any of our potential products are approved for marketing. Cost control initiatives could decrease the price that we receive for any product candidate we may develop in the future. In addition, third-party payors are increasingly challenging the price and cost-effectiveness of medical products and services and any of our potential products may ultimately not be considered cost-effective by these third parties. Any of these initiatives or developments could materially harm our business.

***Our activities involve hazardous materials, and improper handling of these materials by our employees or agents could expose us to significant legal and financial penalties.***

Our research and development activities involve the controlled use of hazardous materials, chemicals and various radioactive compounds. As a consequence, we are subject to numerous environmental and safety laws and regulations, including those governing laboratory procedures, exposure to blood-borne pathogens and the handling of biohazardous materials. We may be required to incur significant costs to comply with current or future environmental laws and regulations and may be adversely affected by the cost of compliance with these laws and regulations.

Although we believe that our safety procedures for using, handling, storing and disposing of hazardous materials comply with the standards prescribed by state and federal regulations, the risk of accidental contamination or injury from these materials cannot be eliminated. In the event of such an accident, state or federal authorities could curtail our use of these materials and we could be liable for any civil damages that result, the cost of which could be substantial. Further, any failure by us to control the use, disposal, removal or storage, or to adequately restrict the discharge, or assist in the cleanup, of hazardous chemicals or hazardous, infectious or toxic substances could subject us to significant liabilities,

including joint and several liability under certain statutes. Any such liability could exceed our resources and could have a material adverse effect on our business, financial condition and results of operations. Additionally, an accident could damage our research and manufacturing facilities and operations.

Additional federal, state and local laws and regulations affecting us may be adopted in the future. We may incur substantial costs to comply with these laws and regulations and substantial fines or penalties if we violate any of these laws or regulations.

***Our stock price has historically been very volatile.***

Stock prices and trading volumes for many biopharmaceutical companies fluctuate widely for a number of reasons, including factors which may be unrelated to their businesses or results of operations such as media coverage, legislative and regulatory measures and the activities of various interest groups or organizations. This market volatility, as well as general domestic or international economic, market and political conditions, could materially and adversely affect the market price of our common stock and the return on your investment.

Historically, our stock price has been extremely volatile. Between January 1998 and December 2005, our stock has traded as high as \$75.88 per share and as low as \$1.41 per share. Between January 1, 2003 and December 31, 2005, the price has ranged between a high of \$16.80 per share and a low of \$1.41 per share. The significant market price fluctuations of our common stock are due to a variety of factors, including:

- the demand in the market for our common stock;
- the experimental nature of our product candidates;
- fluctuations in our operating results;
- market conditions relating to the biopharmaceutical and pharmaceutical industries;
- announcements of technological innovations, new commercial products, or clinical progress or lack thereof by us, our collaborative partners or our competitors;
- announcements concerning regulatory developments, developments with respect to proprietary rights and our collaborations;
- comments by securities analysts;
- general market conditions;
- political developments related to human embryonic stem cell research;
- public concern with respect to our product candidates; or
- the issuance of common stock to partners, vendors or to investors to raise additional capital.

In addition, the stock market is subject to other factors outside our control that can cause extreme price and volume fluctuations. Securities class action litigation has often been brought against companies, including many biotechnology companies, which experience volatility in the market price of their securities. Litigation brought against us could result in substantial costs and a diversion of management's attention and resources, which could adversely affect our business.

***The sale of a substantial number of shares may adversely affect the market price for our common stock.***

Sale of a substantial number of shares of our common stock in the public market, or the perception that such sales could occur, could significantly and negatively affect the market price for our common stock. As of December 31, 2005, we had 100,000,000 shares of common stock authorized for issuance and 64,829,857 shares of common stock outstanding. In addition, as of December 31, 2005, we have reserved for future issuance approximately 18,897,097 shares of common stock for our stock plans, potential milestone payments and outstanding warrants.

In addition, we have issued common stock to certain parties, such as vendors and service providers, as payment for products and services. Under these arrangements, we typically agree to register the shares for resale soon after their issuance. We may continue to pay for certain goods and services in this manner, which would dilute your interest in us. Also, sales of the shares issued in this manner could negatively affect the market price of our stock.

***Our undesignated preferred stock may inhibit potential acquisition bids; this may adversely affect the market price for our common stock and the voting rights of the holders of our common stock.***

Our certificate of incorporation provides our Board of Directors with the authority to issue up to 3,000,000 shares of undesignated preferred stock and to determine the rights, preferences, privileges and restrictions of these shares without further vote or action by the stockholders. As of the date of this filing, 50,000 shares of preferred stock have been designated Series A Junior Participating Preferred Stock and the Board of Directors still has authority to designate and issue up to 2,950,000 shares of preferred stock. The issuance of shares of preferred stock may delay or prevent a change in control transaction without further action by our stockholders. As a result, the market price of our common stock may be adversely affected.

In addition, if we issue preferred stock in the future that has preference over our common stock with respect to the payment of dividends or upon our liquidation, dissolution or winding up, or if we issue preferred stock with voting rights that dilute the voting power of our common stock, the rights of holders of our common stock or the market price of our common stock could be adversely affected.

***Provisions in our share purchase rights plan, charter and bylaws, and provisions of Delaware law, may inhibit potential acquisition bids for us, which may prevent holders of our common stock from benefiting from what they believe may be the positive aspects of acquisitions and takeovers.***

Our Board of Directors has adopted a share purchase rights plan, commonly referred to as a "poison pill." This plan entitles existing stockholders to rights, including the right to purchase shares of common stock, in the event of an acquisition of 15% or more of our outstanding common stock.

Our share purchase rights plan could prevent stockholders from profiting from an increase in the market value of their shares as a result of a change of control of us by delaying or preventing a change of control. In addition, our Board of Directors has the authority, without further action by our stockholders, to issue additional shares of common stock, and to fix the rights and preferences of one or more series of preferred stock.

In addition to our share purchase rights plan and the undesignated preferred stock, provisions of our charter documents and bylaws may make it substantially more difficult for a third party to acquire control of us and may prevent changes in our management, including provisions that:

- prevent stockholders from taking actions by written consent;
- divide the Board of Directors into separate classes with terms of office that are structured to prevent all of the directors from being elected in any one year; and
- set forth procedures for nominating directors and submitting proposals for consideration at stockholders' meetings.

Provisions of Delaware law may also inhibit potential acquisition bids for us or prevent us from engaging in business combinations. Either collectively or individually, these provisions may prevent holders of our common stock from benefiting from what they may believe are the positive aspects of acquisitions and takeovers, including the potential realization of a higher rate of return on their investment from these types of transactions.

In addition, we have severance agreements with several employees and a change of control severance plan which could require an acquiror to pay a higher price.

***We do not intend to pay cash dividends on our common stock in the foreseeable future.***

We do not anticipate paying cash dividends on our common stock in the foreseeable future. Any payment of cash dividends will depend upon our financial condition, results of operations, capital requirements and other factors and will be at the discretion of the Board of Directors. Furthermore, we may incur additional indebtedness that may severely restrict or prohibit the payment of dividends.

**ITEM 1B. UNRESOLVED STAFF COMMENTS**

None.

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## **ITEM 2. PROPERTIES**

We currently lease approximately 41,000 square feet of office space at 200 and 230 Constitution Drive, Menlo Park, California. The leases for 200 and 230 Constitution Drive expire in July 2008. In March 2004, as payment of the total rent due for the premises at 200 and 230 Constitution Drive, we issued 363,039 shares of our common stock to the lessor of those premises. As a result, we have no cash rental obligation from February 1, 2004 through July 31, 2008. We also currently lease 900 square feet of office space at Roslin Biotechnology Centre, Roslin, Midlothian, United Kingdom. The lease for the office space expires in June 2006. We believe that our existing facilities are adequate to meet our requirements for the near term.

## **ITEM 3. LEGAL PROCEEDINGS**

None.

## **ITEM 4. SUBMISSION OF MATTERS TO A VOTE OF SECURITY HOLDERS**

None.

## **PART II**

## **ITEM 5. MARKET FOR THE REGISTRANT'S COMMON STOCK, RELATED STOCKHOLDER MATTERS**

### **MARKET INFORMATION**

Our common stock is quoted on the Nasdaq National Market under the symbol GERN. The high and low closing sales prices as reported by the Nasdaq Stock Market of our common stock for each of the quarters in the years ended December 31, 2005 and 2004 are as follows:

As of February 13, 2006, there were approximately 912 stockholders of record. We are engaged in a highly dynamic industry, which often results in significant volatility of our common stock price. On February 21, 2006, the closing price for our common stock was \$8.10 per share.

### **DIVIDEND POLICY**

We have never paid cash dividends on our capital stock and do not anticipate paying cash dividends in the foreseeable future, but intend to retain our capital resources for reinvestment in our business. Any future determination to pay cash dividends will be at the discretion of the Board of Directors and will be dependent upon our financial condition, results of operations, capital requirements and other factors as the Board of Directors deems relevant.

### **RECENT SALES OF UNREGISTERED SECURITIES**

None.

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## SECURITIES AUTHORIZED FOR ISSUANCE UNDER EQUITY COMPENSATION PLANS

The information required by this Item concerning our equity compensation plans is incorporated by reference from the section captioned "Equity Compensation Plans" contained in our Definitive Proxy Statement related to the Annual Meeting of Stockholders to be held May 24, 2006, to be filed with the Securities and Exchange Commission.

## ITEM 6. SELECTED FINANCIAL DATA

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## ITEM 7. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

### OVERVIEW

This annual report contains forward-looking statements that involve risks and uncertainties. We use words such as "anticipate," "believe," "plan," "expect," "future," "intend" and similar expressions to identify forward-looking statements. These statements appear throughout the annual report and are statements regarding our intent, belief or current expectations, primarily with respect to our operations and related industry developments. You should not place undue reliance on these forward-looking statements, which apply only as of the date of this annual report. Our actual results could differ materially from those anticipated in these forward-looking statements for many reasons, including the risks faced by us and described in the section of Item 1 entitled "Additional Factors That May Affect Future Results," and elsewhere in this annual report.

The following discussion should be read in conjunction with the audited consolidated financial statements and notes thereto included in Part I, Item 8 of this annual report.

We are a biopharmaceutical company focused on developing and commercializing three groups of products: (i) therapeutic products for oncology that target telomerase; (ii) pharmaceuticals that activate telomerase in tissues impacted by senescence, injury or degenerative disease; and (iii) cell-based therapies derived from our human embryonic stem cell platform for applications in multiple chronic diseases as discussed in more detail in Item 1 "Business" of this annual report on Form 10-K beginning on page 1.

### CRITICAL ACCOUNTING POLICIES AND ESTIMATES

Our consolidated financial statements have been prepared in accordance with accounting principles generally accepted in the United States of America. The preparation of these financial statements requires management to make estimates and assumptions that affect the reported amounts of assets, liabilities, revenues and expenses. Note 1 of Notes to Consolidated Financial Statements describes the significant accounting policies used in the preparation of the consolidated financial statements. Certain of these significant accounting policies are considered to be critical accounting policies, as defined below.

A critical accounting policy is defined as one that is both material to the presentation of our financial statements and requires management to make difficult, subjective or complex judgments that could have a material effect on our financial condition and results of operations. Specifically, critical accounting estimates have the following attributes: (i) we are required to make assumptions about matters that are highly uncertain at the time of the estimate; and (ii) different estimates we could reasonably have used, or changes in the estimate that are reasonably likely to occur, would have a material effect on our financial condition or results of operations.

Estimates and assumptions about future events and their effects cannot be determined with certainty. We base our estimates on historical experience and on various other assumptions believed to be applicable and reasonable under the circumstances. These estimates may change as new events occur, as additional information is obtained

and as our operating environment changes. These changes have historically been minor and have been included in the consolidated financial statements as soon as they became known. Based on a critical assessment of our accounting policies and the underlying judgments and uncertainties affecting the application of those policies, management believes that our consolidated financial statements are fairly stated in accordance with accounting principles generally accepted in the United States, and meaningfully present our financial condition and results of operations.

We believe the following critical accounting policies reflect our more significant estimates and assumptions used in the preparation of our consolidated financial statements:

### **Revenue Recognition**

Since our inception, a substantial portion of our revenues has been generated from research and licensing agreements with collaborators. Revenue under such collaboration agreements typically includes upfront signing or license fees, cost reimbursements, milestone payments and royalties on future product sales.

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We recognize nonrefundable signing or license fees that are not dependent on future performance under these agreements as revenue when received and over the term of the arrangement if we have continuing performance obligations. We recognize option payments as revenue over the term of the option agreement. We recognize milestone payments upon completion of specified milestones, which represents the culmination of an earnings process, according to contract terms. Royalties are recognized as revenue upon the receipt of payment of the royalty amount. We recognize cost reimbursement revenue under collaborative agreements, including related party agreements, as the related research and development costs are performed. Deferred revenue represents the portion of research or license payments received which had not been earned.

We estimate the projected future life of license agreements over which we recognize revenue. Our estimates are based on historical experience and general industry practice. Revisions in the estimated lives of these license agreements have the effect of increasing or decreasing license fee revenue in the period of revision. As of December 31, 2005, no revisions to the estimated future lives of license agreements have been made and we do not expect revisions to the currently active agreements in the future.

### **Intangible Asset and Research Funding Obligation**

In May 1999, we completed the acquisition of Roslin Bio-Med Ltd., a privately held company formed by the Roslin Institute in Midlothian, Scotland. In connection with this acquisition, we formed a research collaboration with the Roslin Institute and committed approximately \$20,000,000 in research funding over six years. Using an effective interest rate of 6%, this research funding obligation had a net present value of \$17,200,000 at the acquisition date and this amount was capitalized as an intangible asset that was being amortized as research and development expense over the six year funding period. In December 2004, we extended the research funding period from June 30, 2005 to June 30, 2006, and we adjusted the amortization period of the intangible asset to coincide with the extended research period. No additional funding was committed. Through April 2005, imputed interest has been accreted to the value of the research funding obligation and recognized as interest expense.

At the time of acquisition, we estimated the effective interest rate and have been evaluating the spending rate under the collaboration as compared to the contractual funding period. Revisions in the effective interest rate or amortization period would have the effect of increasing or decreasing research and development expense as well as the balance of intangible assets and research funding obligation on the balance sheet. As of December 31, 2005, no revisions to the effective interest rate have been made and we do not expect revisions in the future. Further adjustments to the amortization period may occur as we near the end of the extended research period and evaluate our continuing research support.

### **Valuation of Equity Instruments**

As permitted by SFAS No. 123, "Accounting for Stock-Based Compensation," (SFAS 123), as amended by SFAS No. 148, "Accounting for Stock-Based Compensation - Transition and Disclosures" (SFAS 148), we elected to

continue to apply the provisions of APB Opinion 25, "Accounting for Stock Issued to Employees," (APB Opinion 25) and related interpretations in accounting for our employee stock option and stock purchase plans. We are generally not required under APB Opinion 25 and related interpretations to recognize compensation expense in connection with our employee stock option and stock purchase plans. To comply with SFAS 148, we presented in the Notes to Consolidated Financial Statements, the pro forma effect on our net loss and loss per share as if we had applied the fair value recognition provisions of SFAS 123, as amended, to options granted to employees under our stock-based employee compensation plans.

We have adopted the requirements of SFAS 123R effective January 1, 2006, utilizing the "modified prospective" method. We have selected the Black-Scholes option-pricing model as the most appropriate fair-value method for our awards and will recognize compensation cost on a straight-line basis over our awards' vesting periods. We anticipate that the adoption of SFAS 123R effective January 1, 2006, will result in stock-based compensation expense in fiscal 2006 of approximately \$3.6 million for the vested portion of past awards. We expect that additional compensation expense as a result of adopting SFAS 123R will result in additional net loss per share of approximately \$0.06 to \$0.07 per share for 2006. These estimates are based solely on awards that were currently unvested at January 1, 2006, and does not reflect the potential impact of additional options that may be granted in 2006.

In valuing our options using the Black Scholes option-pricing model, we make assumptions about risk-free interest rates, dividend yields, volatility and weighted average expected lives of the options. Risk-free interest rates are derived from United States zero-coupon treasury strip yields as of the option grant date. Dividend yields are based on our historical dividend payments, which have been zero to date. Volatility is derived from the historical volatility of our common stock as traded on Nasdaq. The weighted average expected lives of the options is based on historical experience of option exercises and the average vesting option schedule. Each year, we have consistently applied the same methodology when deriving these assumptions. Revisions of any of these assumptions would increase or decrease the value of the option and increase or decrease the pro forma effect on reported net income (loss) and earnings (loss) per share if compensation expense had been recognized based on the fair value method. As of December 31, 2005, no revisions to the methods used in deriving the assumptions used in the Black Scholes option-pricing model have been made. Revisions may occur in the future with the adoption of SFAS 123R.

In valuing our warrants using the Black Scholes option-pricing model, we make assumptions about risk-free interest rates, dividend yields, volatility and expected lives of the warrants. Risk-free interest rates are derived from United States zero-coupon treasury strip yields as of the warrant issue date. Dividend yields are based on our historical dividend payments, which have been zero to date. Volatility is derived from the historical volatility of our common stock as traded on Nasdaq. The expected lives of the warrants is based on the term of the warrants. Upon issuance of a warrant to consultants or collaborators, we recognize an expense in our consolidated statements of operations. Upon issuance of warrants in connection with an equity financing, we recognize issuance costs with an offset to additional paid-in capital in our consolidated balance sheets. Each year, we have consistently applied the same methodology when deriving these assumptions. Revisions of any of these assumptions would increase or decrease the value of the warrant and increase or decrease the expense or issuance cost recognized upon vesting of the warrant. As of December 31, 2005, no revisions to the methods used in deriving the assumptions used in the Black Scholes option-pricing model for warrants have been made. Revisions may occur in the future with the adoption of SFAS 123R.

## **RESULTS OF OPERATIONS**

Our results of operations have fluctuated from period to period and may continue to fluctuate in the future, based upon the progress of our research and development efforts and variations in the level of expenses related to developmental efforts during any given period. Results of operations for any period may be unrelated to results of operations for any other period. In addition, historical results should not be viewed as indicative of future operating results. We are subject to risks common to companies in our industry and at our stage of development, including risks inherent in our research and development efforts, reliance upon our collaborative partners, enforcement of our patent and proprietary rights, need for future capital, potential competition and uncertainty of preclinical and clinical trial results or regulatory approvals or clearances. In order for a product candidate to be commercialized based on our research, we and our collaborators must conduct preclinical tests and clinical trials, demonstrate the efficacy and safety of our product candidates, obtain regulatory approvals or clearances



and enter into manufacturing, distribution and marketing arrangements, as well as obtain market acceptance. We do not expect to receive revenues or royalties based on therapeutic products for a period of years, if at all.

## Revenues

We recognized \$290,000 of revenues from collaborative agreements in 2005 compared to none in 2004 and \$72,000 in 2003. Revenues in 2005 reflected amounts earned under a contract to perform scientific research services to a related party, our joint venture in Hong Kong, TA Therapeutics. Revenues in 2003 primarily reflected research services conducted for others in connection with consulting contracts.

We have entered into license and option agreements with companies involved with oncology, diagnostics, research tools, agriculture and biologics production. In each of these agreements, we have granted certain rights to our technologies. In connection with the agreements, we are entitled to receive license fees, option fees, milestone payments and royalties on future sales, or any combination thereof. We recognized license and option fee revenues of \$5.8 million, \$944,000 and \$972,000 in 2005, 2004 and 2003, respectively, related to our various agreements. The overall increase in license fee revenue in 2005 was primarily due to (i) the \$4.0 million license fee payment received in connection with the transfer of nuclear transfer intellectual property rights for use in animal cloning to our new joint venture, stART Licensing, Inc., and (ii) revenue recognized from the collaborative agreement with Merck. We expect to

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recognize revenue of \$2.2 million in 2006, \$1.0 million in 2007, \$59,000 in 2008, \$47,000 in 2009 and \$79,000 thereafter related to our existing deferred revenue. Current revenues may not be predictive of future revenues.

We received royalties of \$66,000, \$109,000 and \$130,000 in 2005, 2004 and 2003, respectively, on product sales of telomerase detection and telomere measurement kits to the research-use-only market, cell-based research products and agricultural products. License and royalty revenues are dependent upon additional agreements being signed and future product sales.

## Research and Development Expenses

Research and development expenses were \$35.1 million, \$30.1 million and \$25.6 million for the years ended December 31, 2005, 2004 and 2003, respectively. The increase in 2005 from 2004 was primarily the result of an increase in personnel-related costs of \$2.8 million for additional scientific headcount, an increase in clinical consulting costs related to GRN163L of \$1.8 million, and an increase in scientific supplies expense of \$1.4 million, partially offset by a reduction in preclinical study expenses of \$1.0 million as a result of the commencement of clinical trials for GRN163L in 2005. The increase in 2004 from 2003 was primarily due to an increase of \$1.5 million for raw materials for the manufacture of GRN163L, \$1.3 million for scientific supplies, \$1.1 million for animal toxicology studies related to the clinical development of GRN163L and \$514,000 for clinical consulting and sponsored research at other academic laboratories. Overall, we expect research and development expenses to increase in the next year as we incur expenses related to manufacturing and clinical testing of GRN163L, continue clinical trials of our telomerase cancer vaccine and continue development of our human embryonic stem cell (hESC) programs.

Our research and development activities can be divided into two major categories of related programs, oncology and hESC therapies. The oncology programs focus on treating or diagnosing cancer by targeting or detecting the presence of telomerase, either inhibiting activity of the telomerase enzyme, diagnosing cancer by detecting the presence of telomerase, or using telomerase as a target for therapeutic vaccines. Our core knowledge base in telomerase and telomere biology supports all these approaches, and our scientists may contribute to any or all of these programs in a given period. For our telomerase inhibition program, we have initiated clinical testing of GRN163L in patients with chronic lymphocytic leukemia at two clinical trial sites in the New York metropolitan area. An investigator-sponsored Phase 1-2 clinical trial at Duke University Medical Center using a therapeutic vaccine targeting telomerase in patients with metastatic prostate cancer has been completed. Study results showed no treatment-related adverse effects to date and positive specific immune responses to telomerase. We currently are conducting additional Phase 1-2 studies in patients with prostate cancer, hematologic malignancies and renal carcinoma at Duke. We have transferred the vaccine manufacturing process in-house for further optimization and transfer to a contract manufacturer. At the conclusion of these activities, we

plan to file our IND with the FDA for clinical trials in one or more cancer types.

Our hESC therapy programs focus on treating injuries and degenerative diseases with cell therapies based on cells derived from hESCs. A core of knowledge of hESC biology, as well as a significant continuing effort in deriving, growing, maintaining, and differentiating hESCs, underlies all aspects of this group of programs. Many of our researchers are allocated to more than one hESC project, and the percentage allocations of time change as the resource needs of individual programs vary. In our hESC therapy programs, we have concentrated our resources on several specific cell types. We have developed proprietary methods to culture and scale up undifferentiated hESCs and differentiate them into therapeutically relevant cells. We are now testing six different therapeutic cell types in animal models of human disease. In four of these cell types, we have preliminary results suggesting efficacy as evidenced by functional improvements or engraftment of the cells in the treated animals. After completion of these studies, and assuming continued success, we expect to begin Phase 1-2 clinical trials, most likely for the treatment of spinal cord injury.

Research and development expenses incurred under each of these programs is as follows (in thousands):

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At this time, we cannot provide reliable estimates of how much time or investment will be necessary to commercialize products from the programs currently in progress. Drug development in the U.S. is a process that includes multiple steps defined by the FDA under applicable statutes, regulations and guidance documents. After the preclinical research process of identifying, selecting and testing in animals a potential pharmaceutical compound, the clinical development process begins with the filing of an IND. Clinical development typically involves three phases of study: Phase 1, 2 and 3. The most significant costs associated with clinical development are incurred in Phase 3 trials, which tend to be the longest and largest studies conducted during the drug development process. After the completion of a successful preclinical and clinical development program, a New Drug Application (NDA) or Biologics License Application (BLA) must be filed with the FDA, which includes, among other things, very large amounts of preclinical and clinical data and results and manufacturing-related information necessary to support requested approval of the product. The NDA/BLA must be reviewed and approved by the FDA.

According to industry statistics, it generally takes 10 to 15 years to research, develop and bring to market a new prescription medicine in the United States. In light of the steps and complexities involved, the successful development of our potential products is highly uncertain. Actual timelines and costs to develop and commercialize a product are subject to enormous variability and are very difficult to predict, as our clinical development programs are updated and modified to reflect the most recent preclinical and clinical data and other relevant information. In addition, various statutes and regulations also govern or influence the manufacturing, safety reporting, labeling, storage, record keeping and marketing of each product. The lengthy process of seeking these regulatory reviews and approvals, and the subsequent compliance with applicable statutes and regulations, require the expenditure of substantial resources. Any failure by us to obtain, or any delay in obtaining, regulatory approvals could materially adversely affect our business. In responding to an NDA/BLA submission, the FDA may grant marketing approval, may request additional information, may deny the application if it determines that the application does not provide an adequate basis for approval, and may also refuse to review an application that has been submitted if it determines that the application does not provide an adequate basis for filing and review. We cannot provide assurance that any approval required by the FDA will be obtained on a timely basis, if at all.

For a more complete discussion of the risks and uncertainties associated with completing development of potential products, see the sub-section titled "Because we or our collaborators must obtain regulatory approval to market our products in the United States and other countries, we cannot predict whether or when we will be permitted to commercialize our products" and "Entry into clinical trials with one or more product candidates may not result in any commercially viable products" in the section of Item 1 entitled "Additional Factors That May Affect Future Results," and elsewhere in this annual report.

#### **Acquired In-Process Research Technology**

In March 2004, we entered into an agreement with Merix Bioscience, Inc. (now Argos Therapeutics, Inc.) under which we acquired a co-exclusive right under patents controlled by Argos for the use of defined antigens in therapeutic cancer vaccines. In conjunction with the agreement, we issued 5,000,000 shares of our common stock to Argos.

We acquired rights to the Argos technology for commercial development of our therapeutic cancer vaccine. Further development of the technology is required before we can enter into advanced clinical trials for a potential commercial application. We have concluded that this technology has no alternative future use as defined in Statement of Financial Accounting Standards No. 2, "Accounting for Research and Development Costs" and accordingly, expensed the value of the acquired in-process research technology of \$45.2 million at the time of acquisition.

### **General and Administrative Expenses**

General and administrative expenses were \$8.8 million, \$7.1 million and \$5.8 million for the years ended December 31, 2005, 2004 and 2003, respectively. The increase in 2005 from 2004 was primarily due to the recognition of \$2.6 million of consulting expense associated with the fair value of a warrant issued to a consultant in conjunction with the establishment of TA Therapeutics, Ltd., our joint venture in Hong Kong. The increase in 2004 from 2003 primarily reflected an increase in patent legal costs of \$861,000 and an increase in corporate legal and accounting expenses of \$454,000 for additional regulatory compliance related to the Sarbanes-Oxley Act and various equity transactions with vendors. We currently anticipate general and administrative expenses to remain consistent with current levels.

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### **Interest and Other Income**

Interest income was \$4.6 million, \$1.5 million and \$968,000 for the years ended December 31, 2005, 2004 and 2003, respectively. The increase in 2005 as compared to 2004 was due to increased interest rates and higher cash and investment balances as a result of proceeds received from the public offering in September 2005. The increase in 2004 as compared to 2003 was due to higher cash and investment balances as a result of proceeds received from equity financings in November 2003 and 2004. Also included in interest income for the years ended December 31, 2005, 2004 and 2003, was realized losses of \$192,000, \$226,000 and none, respectively, related to other-than-temporary declines in value for our equity investments in licensees. We also received none, \$74,000 and \$864,000 in research payments under government grants for the years ended December 31, 2005, 2004 and 2003, respectively, and recorded these amounts as other income in each year. We received the final funding payment from our National Consortium Drug Discovery Group grant award from the National Cancer Institute in 2004.

### **Interest and Other Expense**

Interest and other expense was \$464,000, \$672,000 and \$734,000 for the years ended December 31, 2005, 2004 and 2003, respectively. The decrease in interest and other expense for 2005 compared to 2004 was primarily due to the conclusion of interest accretion for the Roslin research-funding obligation. The decrease in interest and other expense for 2004 compared to 2003 was primarily the result of reduced equipment loan obligations.

### **Conversion Expense**

In May 2003, we modified the existing terms of the outstanding \$15,000,000 of series D convertible debentures to provide for an automatic conversion into equity on the maturity date, fixed the conversion price at \$5.00 per share and eliminated the interest accrual for the remainder of the term. In addition, we modified the terms of the related outstanding warrants and changed the exercise prices to \$7.50 per share. The expiration periods were unchanged. As a result of this second modification, we recorded \$779,000 in conversion expense on our consolidated statements of operations.

During May and June 2003, all of the remaining \$15,000,000 of series D convertible debentures plus accrued interest of \$575,000 were converted into 3,115,068 shares of Geron common stock. As of December 31, 2005 and 2004, no series D convertible debentures remained outstanding. Amended series D-1 warrants to purchase 333,935 shares of Geron common stock expired on July 1, 2003 without having been exercised and amended series D-2 warrants to purchase 500,901 shares of Geron common stock remained outstanding as of December 31, 2005.

### **Net Loss**

Net loss was \$33.5 million, \$80.4 million and \$29.9 million for the years ended December 31, 2005, 2004 and 2003, respectively. Absent the acquired in-process research technology expense of \$45.2 million, overall net loss for 2005 decreased relative to 2004 primarily due to increased license fee revenue from the Merck and stART transactions and interest income, partially offset by higher operating expenses associated with increased scientific headcount and the warrant issuance related to consulting services. The overall increase in net loss in 2004 compared to 2003 was primarily the result of the acquired in-process research technology expense of \$45.2 million associated with the Merix transaction and increased research and development expense associated with the clinical development of GRN163L.

### **LIQUIDITY AND CAPITAL RESOURCES**

Cash, restricted cash, cash equivalents and marketable securities at December 31, 2005 were \$191.0 million, compared to \$120.5 million at December 31, 2004 and \$109.8 million at December 31, 2003. We have an investment policy to invest these funds in liquid, investment grade securities, such as interest-bearing money market funds, corporate notes, commercial paper, asset-backed securities and municipal securities. The increase in cash, restricted cash, cash equivalents and marketable securities in 2005 was due to the receipt of \$12.5 million in net cash proceeds from the exercise of warrants, \$4.0 million in proceeds from the sale of common stock to Hong Kong investors, \$4.0 million in connection with the stART Licensing, Inc. joint venture, \$3.5 million in connection with the Merck collaboration and \$76.0 million of net proceeds in September 2005 from our underwritten public offering of common stock and the exercise of the warrant held by Merck. The increase in cash, restricted cash, cash equivalents and marketable securities in 2004 was the result of an equity financing consummated in November 2004 which resulted in net cash proceeds of \$39.9 million.

### **Cash Flows from Operating Activities**

Net cash used in operations was \$20.6 million, \$25.9 million and \$23.1 million in 2005, 2004 and 2003, respectively. The decrease in net cash used for operations in 2005 was primarily the result of increased cash received from interest income and license fees which offset higher operating expenses related to increased scientific headcount. The increase in net cash used for operations in 2004 was primarily the result of increased operating expenses related to the manufacturing and development of GRN163L.

### **Cash Flows from Investing Activities**

Net cash provided by investing activities was \$13.0 million in 2005, compared to net cash used of \$18.2 million in 2004 and \$55.9 million in 2003. Net cash provided in 2005 was a result of increased proceeds from maturities of marketable securities received through various equity financings as described below.

Through December 31, 2005, we have invested approximately \$15.5 million in property and equipment, of which approximately \$8.3 million was financed through an equipment financing arrangement. Minimum annual payments due under the equipment financing facility are expected to total \$55,000 in 2006. As of December 31, 2005, we had approximately \$1.4 million available for borrowing under our equipment financing facilities. The drawdown period under the equipment financing facilities expires in November 2006. We intend to renew the commitments for new equipment financing facilities in 2006 to further fund equipment purchases. If we are unable to renew the commitment, we will be obliged to use our own cash resources for capital expenditures.

### **Cash Flows from Financing Activities**

Net cash provided by financing activities in 2005 of \$94.4 million reflected the receipt of \$12.5 million in proceeds from the exercise of warrants issued to institutional investors in November 2004, \$4.0 million in proceeds from the sale of our common stock to Hong Kong investors and \$76.0 million in net proceeds from the underwritten public offering of common stock and the exercise of the Merck warrant in September 2005. Net cash provided by financing activities in 2004 of \$41.1 million included the net proceeds from the sale of our common stock and warrants to institutional investors for approximately \$39.9 million. Net cash provided by financing activities in 2003 of \$87.2 million reflected the receipt of approximately \$64.3 million in net proceeds from the completion of a public offering of our common stock and of approximately \$19.0 million in net proceeds from the sale of our common stock to two institutional investors.

Our contractual obligations for the next five years, and thereafter are as follows:

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We estimate that our existing capital resources, interest income and equipment financing facilities will be sufficient to fund our current level of operations through at least December 2007. Changes in our research and development plans or other changes affecting our operating expenses or cash balances may result in the expenditure of available resources before such time, and in any event, we will need to raise substantial additional capital to fund our operations in the future. We intend to seek additional funding through strategic collaborations, public or private equity financings, equipment loans or other financing sources that may be available.

#### **RECENT ACCOUNTING PRONOUNCEMENTS**

See Note 1 of Notes to Consolidated Financial Statements for a description of new accounting pronouncements.

#### **OFF-BALANCE SHEET ARRANGEMENTS**

None.

#### **ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK**

The following discussion about our market risk disclosures contains forward-looking statements. Actual results could differ materially from those projected in the forward-looking statements. We are exposed to market risk related to changes in interest rates and foreign currency exchange rates. We do not use derivative financial instruments for speculative or trading purposes.

*Credit Risk.* We place our cash, restricted cash, cash equivalents and marketable securities with three financial institutions in the United States. Generally, these deposits may be redeemed upon demand and therefore, bear minimal risk. Deposits with banks may exceed the amount of insurance provided on such deposits. Financial instruments that potentially subject us to concentrations of credit risk consist primarily of marketable securities. Marketable securities consist of high-grade corporate bonds, asset-backed securities and U.S. government agency securities. Our investment policy, approved by our Board of Directors, limits the amount we may invest in any one type of investment issuer, thereby reducing credit risk concentrations.

*Interest Rate Sensitivity.* The fair value of our cash equivalents and marketable securities at December 31, 2005 was \$189.7 million. These investments include \$95.9 million of cash and cash equivalents which are due in less than 90 days, \$7.1 million of asset-backed securities which have varying maturity dates, and \$86.7 million of short-term investments which are due in less than one year. Our investment policy is to manage our marketable securities portfolio to preserve principal and liquidity while maximizing the return on the investment portfolio through the full investment of available funds. We diversify the marketable securities portfolio by investing in multiple types of investment grade securities. We primarily invest our marketable securities portfolio in short-term securities with at least an investment grade rating to minimize interest rate and credit risk as well as

to provide for an immediate source of funds. Although changes in interest rates may affect the fair value of the marketable securities portfolio and cause unrealized gains or losses, such gains or losses would not be realized unless the investments are sold. Due to the nature of our investments, which are primarily corporate notes, U.S. government agency securities, asset-backed securities and money market funds, we have concluded that there is no material market risk exposure.

*Foreign Currency Exchange Risk.* Because we translate foreign currencies into United States dollars for reporting purposes, currency fluctuations can have an impact, though generally immaterial, on our results. We believe that our exposure to currency exchange fluctuation risk is insignificant primarily because our international subsidiary satisfies its financial obligations almost exclusively in its local currency. In 2005, there was an immaterial currency exchange impact from our intercompany transactions. However, our financial obligations to the Roslin Institute are stated in British pounds sterling over the next 6 months. This obligation may become more expensive for us if the United States dollar becomes weaker against the British pound sterling. As of December 31, 2005, we did not engage in foreign currency hedging activities.

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## **ITEM 8. CONSOLIDATED FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA**

The following consolidated financial statements and the related notes thereto, of Geron Corporation and the Reports of Independent Registered Public Accounting Firm, Ernst & Young LLP, are filed as a part of this Form 10-K.

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### **REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM**

The Board of Directors and Stockholders Geron Corporation

We have audited the accompanying consolidated balance sheets of Geron Corporation as of December 31, 2005 and 2004, and the related consolidated statements of operations, stockholders' equity, and cash flows for each of the three years in the period ended December 31, 2005. These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements based on our audits.

We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the financial statements referred to above present fairly, in all material respects, the consolidated financial position of Geron Corporation at December 31, 2005 and 2004, and the consolidated results of its operations and its cash flows for each of the three years in the period ended December 31, 2005, in conformity with U.S. generally accepted accounting principles.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States), the effectiveness of Geron Corporation's internal control over financial reporting as of December 31, 2005, based on criteria established in Internal Control - Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission and our report dated February 27, 2006 expressed an unqualified opinion thereon.

Palo Alto, California  
February 27, 2006

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**REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM**

The Board of Directors and Stockholders Geron Corporation

We have audited management's assessment, included in the accompanying Management Report on Internal Control Over Financial Reporting, that Geron Corporation maintained effective internal control over financial reporting as of December 31, 2005, based on criteria established in Internal Control - Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (the COSO criteria). Geron Corporation's management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting. Our responsibility is to express an opinion on management's assessment and an opinion on the effectiveness of the company's internal control over financial reporting based on our audit.

We conducted our audit in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects. Our audit included obtaining an understanding of internal control over financial reporting, evaluating management's assessment, testing and evaluating the design and operating effectiveness of internal control, and performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

In our opinion, management's assessment that Geron Corporation maintained effective internal control over financial reporting as of December 31, 2005, is fairly stated, in all material respects, based on the COSO criteria. Also, in our opinion, Geron Corporation maintained, in all material respects, effective internal control over financial reporting as of December 31, 2005, based on the COSO criteria.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States), the consolidated balance sheets of Geron Corporation as of December 31, 2005 and 2004, and the related consolidated statements of operations, stockholders' equity, and cash flows for each of the three years in the period ended December 31, 2005 and our report dated February 27, 2006 expressed an unqualified opinion thereon.

/s/ Ernst & Young LLP

Palo Alto, California  
February 27, 2006

**GERON CORPORATION**  
**CONSOLIDATED BALANCE SHEETS**

See accompanying notes.

**GERON CORPORATION**  
**CONSOLIDATED STATEMENTS OF OPERATIONS**

See accompanying notes.

**GERON CORPORATION**  
**CONSOLIDATED STATEMENT OF STOCKHOLDERS' EQUITY**



See accompanying notes.

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**GERON CORPORATION**  
**CONSOLIDATED STATEMENTS OF CASH FLOWS**

See accompanying notes.

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**GERON CORPORATION**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**

**1. ORGANIZATION AND SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES**

**Organization**

Geron Corporation ( "we" or "Geron" ) was incorporated in the State of Delaware on November 29, 1990. We are a biopharmaceutical company focused on developing and commercializing three groups of products: (i) therapeutic products for oncology that target telomerase; (ii) pharmaceuticals that activate telomerase in tissues impacted by senescence, injury or degenerative disease; and (iii) cell-based therapies derived from our human embryonic stem cell platform for applications in multiple chronic diseases. Principal activities to date have included obtaining financing, securing operating facilities and conducting research and development. We have no therapeutic products currently available for sale and do not expect to have any therapeutic products commercially available for sale for a period of years, if at all. These factors indicate that our ability to continue research and development activities is dependent upon the ability of our management to obtain additional financing as required.

**Principles of Consolidation**

The consolidated financial statements include the accounts of Geron Corporation and our one wholly-owned subsidiary, Geron Bio-Med Ltd., a United Kingdom company. We have eliminated intercompany accounts and transactions. We measure the financial statements of Geron Bio-Med using the local currency as the functional currency. We translate the assets and liabilities of this subsidiary at rates of exchange at the balance sheet date. We translate income and expense items at average monthly rates of exchange. The resultant translation adjustments are included in accumulated other comprehensive income (loss), a separate component of stockholders' equity.

FASB Interpretation No. 46-R (FIN 46R), "Consolidation of Variable Interest Entities, an Interpretation of ARB No. 51," as amended, provides guidance on the identification, classification and accounting of variable interest entities. We have variable interests in VIEs through marketable and non-marketable equity investments in various companies with whom we have executed licensing agreements and our joint ventures. In accordance with FIN 46R, we have concluded that we are not the primary beneficiary in any of these VIEs and, therefore, have not consolidated such entities in our consolidated financial statements.

### **Net Loss Per Share**

Basic earnings (loss) per share is computed based on the weighted average shares outstanding and excludes any dilutive effects of options and warrants. Diluted earnings (loss) per share includes any dilutive effect of options and warrants.

Diluted earnings per share is calculated using the weighted average number of common shares outstanding and excludes the effects of common stock equivalents consisting of stock options and warrants which are all antidilutive. Had we been in a net income position, diluted earnings per share would have included the shares used in the computation of basic net loss per share as well as an additional 2,202,274, 1,917,818 and 1,432,238 shares for 2005, 2004 and 2003, respectively, related to outstanding options and warrants (as determined using the treasury stock method at the estimated average market value).

### **Use of Estimates**

The preparation of financial statements in conformity with accounting principles generally accepted in the United States requires us to make estimates and assumptions that affect the amounts reported in the financial statements and accompanying notes. On a regular basis, management evaluates these estimates and assumptions. Actual results could differ from those estimates.

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## **GERON CORPORATION NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**

### **Cash Equivalents and Marketable Debt Securities Available-For-Sale**

We consider all highly liquid investments purchased with an original maturity of three months or less to be cash equivalents. We are subject to credit risk related to our cash equivalents and available-for-sale securities. We place our cash and cash equivalents in money market funds, U.S. government agency securities and commercial paper. Our investments include corporate notes in United States corporations and asset-backed securities with original maturities ranging from two to 24 months.

We classify our marketable debt securities as available-for-sale. We record available-for-sale securities at fair value with unrealized gains and losses reported in accumulated other comprehensive income (loss) in stockholders' equity. Fair values for investment securities are based on quoted market prices, where available. If quoted market prices are not available, fair values are based on quoted market prices of comparable instruments. Realized gains and losses are included in interest and other income and are derived using the specific identification method for determining the cost of securities sold and have been insignificant to date. We recognize an impairment charge when the declines in the fair values of our available-for-sale securities below the amortized cost basis are judged to be other-than-temporary. We consider various factors in determining whether to recognize an impairment charge, including the length of time and extent to which the fair value has been less than our cost basis, the financial condition and near-term prospects of the security issuer, and our intent and ability to hold the investment for a period of time sufficient to allow for any anticipated recovery in market value. Declines in market value judged other-than-temporary result in a charge to interest and other income. No impairment charges were recorded for our available-for-sale securities for the years ended December 31, 2005, 2004 and 2003. Dividend and interest income are recognized when earned. See Note 2 on Financial Instruments and Credit Risk.

### **Revenue Recognition**

We recognize revenue related to license and research agreements with collaborators, royalties, milestone payments and government grants. The principles and guidance outlined in EITF No. 00-21 "Revenue Arrangements with Multiple Deliverables," provide a framework to (i) determine whether an arrangement involving multiple deliverables contains more than one unit of accounting, (ii) determine how the arrangement consideration should be measured and allocated to the separate units of accounting in the arrangement and (iii) apply relevant revenue recognition criteria separately for each of the separate units. For each separate unit of accounting we have objective and reliable evidence of fair value using available internal evidence for the undelivered item(s) and our arrangements generally do not contain a general right of return relative to the delivered item.

We have several license and marketing agreements with various oncology, diagnostics, research tools, agriculture and biologics production companies. With certain of these agreements, we receive nonrefundable license payments in cash or equity securities, option payments in cash or equity securities, royalties on future sales of products, milestone payments, or any combination of these items. Nonrefundable signing or license fees that are not dependent on future performance under these agreements or the intellectual property related to the license has been delivered are recognized as revenue when received and over the term of the arrangement if we have continuing performance obligations. Option payments are recognized as revenue over the term of the option agreement. Milestone payments are recognized upon completion of specified milestones, representing the culmination of the earnings process, according to contract terms. Royalties are generally recognized upon receipt of the related royalty payment.

We recognize revenue under collaborative agreements, including related party agreements, as the related research and development costs for services are rendered. Deferred revenue represents the portion of research and license payments received for which we have not yet performed the research services. Through March 31, 2004, we received funding from United States government grants that supported our research efforts in defined research projects. Those grants generally provided for reimbursement of approved costs incurred as defined in the various grants. Funding associated with those grants was recognized as revenue upon receipt of reimbursement and was included in interest and other income.

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**GERON CORPORATION**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**

**Restricted Cash**

As of December 31, 2005 and 2004, we held \$530,000 in a Certificate of Deposit as collateral on an unused line of credit.

In May 2005, we signed a letter of credit agreement on behalf of one of our vendors. A Certificate of Deposit of \$375,000 secured this letter of credit. In November 2005, the letter of credit arrangement had been fulfilled with the Certificate of Deposit. As a result, there were no letter of credit arrangements outstanding as of December 31, 2005.

**Marketable and Non-Marketable Equity Investments in Licensees and Joint Ventures**

Investments in non-marketable nonpublic companies are carried at the lower of cost or net realizable value. Investments in marketable equity securities are carried at the market value as of the balance sheet date. For marketable equity securities, unrealized gains and losses are reported in accumulated other comprehensive income (loss) in stockholders' equity. Realized gains or losses are included in interest and other income and are derived using the specific identification method.

We monitor our equity investments in licensees and joint ventures for impairment on a quarterly basis and make appropriate reductions in carrying values when such impairments are determined to be other-than-temporary. Impairment charges are included in interest and other income. Factors used in determining an impairment include, but are not limited to, the current business environment including competition and uncertainty of financial condition; going concern considerations such as the rate at which the

investee company utilizes cash, and the investee company's ability to obtain additional private financing to fulfill its stated business plan; the need for changes to the investee company's existing business model due to changing business environments and its ability to successfully implement necessary changes; and the general progress toward product development, including clinical trial results. If an investment is determined to be impaired, then we determine whether such impairment is other-than-temporary. See Note 2 on Financial Instruments and Credit Risk.

### **Derivative Financial Instruments**

Our exposure to currency exchange fluctuation risk is insignificant. Geron Bio-Med, Ltd., our international subsidiary, satisfies its financial obligations almost exclusively in its local currency. For 2005 and 2004, there was an insignificant currency exchange impact from intercompany transactions. We do not engage in foreign currency hedging activities. We do not use derivative financial instruments for trading or speculative purposes.

### **Intangible Asset and Research Funding Obligation**

In May 1999, we completed the acquisition of Roslin Bio-Med Ltd., a privately held company formed by the Roslin Institute in Midlothian, Scotland. In connection with this acquisition, we formed a research collaboration with the Roslin Institute and committed approximately \$20,000,000 in research funding over six years. Using an effective interest rate of 6%, this research funding obligation had a net present value of \$17,200,000 at the acquisition date and was capitalized as an intangible asset that was being amortized as research and development expense over the six year funding period. In December 2004, we extended the research funding period from June 30, 2005 to June 30, 2006 and adjusted the amortization period of the intangible asset to coincide with the extended research period. We recomputed the present value of the remaining funding commitment as of the date of the extension and no adjustment was deemed necessary to the carrying value of the obligation at that date. No additional funding was committed. As of December 31, 2005, the imputed interest for the research funding obligation had been fully accreted. The remaining obligation as of December 31, 2005 was \$1,418,000.

### **Research and Development Expenses**

All research and development costs are expensed as incurred. The value of acquired in-process research and development is charged to research and development expense on the date of acquisition. Research and development expenses include, but are not limited to, acquired in-process technology deemed to have no alternative future use, payroll and personnel expense, lab supplies, preclinical studies,

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## **GERON CORPORATION NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**

raw materials to manufacture clinical trial drugs, manufacturing costs for research and clinical trial materials, sponsored research at other labs, consulting and research-related overhead. Accrued liabilities for raw materials to manufacture clinical trial drugs, manufacturing costs and sponsored research reimbursement fees are included in accrued liabilities and research and development expenses.

### **Depreciation and Amortization**

We record property and equipment at cost and calculate depreciation using the straight-line method over the estimated useful lives of the assets, generally four years. Leasehold improvements are amortized over the shorter of the estimated useful life or remaining term of the lease.

### **Employee Stock Plans**

As permitted by SFAS No. 123, "Accounting for Stock-Based Compensation," (SFAS 123), as amended by SFAS No. 148, "Accounting for Stock-Based Compensation - Transition and Disclosures" (SFAS 148), we elected to continue to apply the provisions of APB Opinion No. 25, "Accounting for Stock Issued to Employees," (APB Opinion

25) and related interpretations in accounting for our employee stock option and stock purchase plans. We are generally not required under APB Opinion 25 and related interpretations to recognize compensation expense in connection with our employee stock option and stock purchase plans.

To comply with SFAS 148, we are presenting the following table to illustrate the effect on our net loss and loss per share as if we had applied the fair value recognition provisions of SFAS 123, as amended, to options granted under our stock-based employee compensation plans. For purposes of this pro forma disclosure, the estimated value of the options is amortized to expense using the straight-line method over the options' vesting period:

The fair value of options granted in fiscal years 2005, 2004 and 2003 reported above has been estimated at the date of grant using the Black Scholes option-pricing model with the following assumptions:

The fair value of the Employee Stock Purchase Plan purchase rights has been estimated using the Black Scholes option-pricing model with the following assumptions:

See Other Recent Accounting Pronouncements for a discussion of SFAS 123R.

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**GERON CORPORATION**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**

**Comprehensive Income (Loss)**

Comprehensive loss is comprised of net loss and other comprehensive loss. Other comprehensive loss includes certain changes in stockholders' equity which are excluded from net loss.

The components of accumulated other comprehensive loss are as follows:

As of December 31, 2005 and 2004, we recognized other-than-temporary impairment charges of \$192,000 and \$226,000, respectively, related to our equity investments in licensees. As a result, \$192,000 and \$226,000 of previously recognized unrealized loss was eliminated from accumulated other comprehensive loss in 2005 and 2004, respectively. See Note 3 on Marketable and Non-Marketable Equity Investments in Licensees.

**Income Taxes**

We apply the provisions of Statement of Financial Accounting Standards No. 109 "Accounting for Income Taxes" (SFAS 109). Under SFAS 109, deferred tax liabilities or assets arise from differences between the tax basis of liabilities or assets and their bases for financial reporting, and are subject to tests of recoverability in the case of deferred tax assets. Deferred tax assets and liabilities are measured using enacted tax rates expected to apply to taxable income in the years in which those temporary differences are expected to be recovered or settled. A valuation allowance is provided for deferred tax assets to the extent realization is not judged to be more likely than not.

**Concentrations of Customers and Suppliers**

The majority of our revenue was earned in the United States. Two new customers accounted for approximately 82% of our 2005 revenues. Three customers accounted for 45% of our 2004 revenues. Seven customers accounted for 56% of our 2003 revenues.

We contract third-party manufacturers to produce GMP-grade drugs and vaccines for preclinical and clinical studies. We also contract for raw materials to supply those manufacturers. Should we be unable to obtain sufficient quantities of raw materials or GMP-grade drugs and vaccines from our third-party sources or other third-party sources, certain development and clinical activities may be delayed.

### **Other Recent Accounting Pronouncements**

In December 2004, the Financial Accounting Standards Board (FASB) issued SFAS No. 123 (revised 2004), "Share-Based Payment" (SFAS 123R). SFAS 123R requires the compensation cost relating to stock-based payment transactions be recognized in financial statements. That cost will be measured based on the fair value of the equity or liability instruments issued on the grant date of such instruments, and will be recognized over the period during which an individual is required to provide service in exchange for the award (typically the vesting period). SFAS 123R covers a wide range of stock-based compensation arrangements including stock options, restricted stock plans, performance-based awards, stock appreciation rights, and employee stock purchase plans. SFAS 123R replaces SFAS 123 and supersedes APB Opinion 25. In April 2005, the Securities and Exchange Commission delayed the effective date of SFAS 123R to the first interim or annual reporting period of the Company's first fiscal year beginning on or after June 15, 2005.

SFAS 123R permits public companies to adopt its requirement using one of two methods: (i) A "modified prospective" method in which compensation cost is recognized beginning with the effective date (a) based on the requirements of SFAS 123R for all share-based payments granted after the effective

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## **GERON CORPORATION NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**

date and (b) based on the fair value as measured under SFAS 123 for all awards granted to employees prior to the effective date of SFAS 123R that remain unvested on the effective date; or (ii) A "modified retrospective" method which includes the requirements of the modified prospective method described above, but also permits entities to restate based on the amounts previously recognized under SFAS 123 for purposes of pro forma disclosures either (a) all prior periods presented or (b) to the start of the fiscal year in which SFAS 123R is adopted.

We have adopted the requirements of SFAS 123R effective January 1, 2006, utilizing the "modified prospective" method. We have selected the Black-Scholes option-pricing model as the most appropriate fair-value method for our awards and will recognize compensation cost on a straight-line basis over our awards' vesting periods. We anticipate that the adoption of SFAS 123R effective January 1, 2006, will result in stock-based compensation expense in fiscal 2006 of approximately \$3.6 million for the vested portion of past awards. We expect that additional compensation expense as a result of adopting SFAS 123R will result in additional net loss per share of approximately \$0.06 to \$0.07 per share for 2006. These estimates are based solely on awards that were currently unvested at January 1, 2006, and does not reflect the potential impact of additional options that may be granted in 2006. Uncertainties, including our future stock-based compensation strategy, stock price volatility, estimated forfeitures and employee stock option exercise behavior, make it difficult to determine whether the stock-based compensation expense that we will incur in future periods will be similar to the SFAS 123 pro forma expense disclosed in Note 1 to our condensed consolidated financial statements.

As permitted by SFAS 123, we currently account for share-based payments to employees using APB Opinion 25's intrinsic value method and, as such, generally recognize no compensation cost for employee stock options which have exercise prices equal to the fair market value of the underlying common stock at the date of granting the option. Accordingly, the adoption of SFAS 123R's fair value method will have a significant impact on our results of operations, although it will have no impact on our overall financial position. SFAS 123R also requires the realized benefits of tax deductions in excess of recognized compensation cost to be reported as a financing

cash flow, rather than as an operating cash flow as required under current literature. This requirement will reduce net operating cash flows and increase net financing cash flows in periods after adoption. We cannot estimate what those amounts will be in the future because of various factors, including but not limited to the timing of employee exercises and whether we will be in a taxable position. It is unlikely that we will have near term benefits from tax deductions. At this time, we estimate there would be no net tax impact related to the prior periods since we are in a net loss position, although as a result of certain provisions of the literature, we would expect an increase in deferred tax assets with an equal increase to the deferred tax asset valuation allowance.

In June 2005, the FASB issued Statement No. 154, "Accounting Changes and Error Corrections—a replacement of APB Opinion No. 20 and FASB Statement No. 3" (SFAS 154). This standard replaces APB Opinion No. 20, "Accounting Changes," and FASB Statement No. 3, "Reporting Accounting Changes in Interim Financial Statements," and changes the requirements for the accounting and reporting of a change in accounting principle. SFAS 154 applies to all voluntary changes in accounting principle and to changes required by an accounting pronouncement in the unusual instance that the pronouncement does not include specific transition provisions. SFAS 154 also requires that a change in depreciation, amortization, or depletion method for long-lived, nonfinancial assets be accounted for as a change in accounting estimate affected by a change in accounting principle. SFAS 154 requires that the change in accounting principle be applied to the balances of assets and liabilities as of the beginning of the earliest period for which retrospective application is practicable and that a corresponding adjustment be made to the opening balance of retained earnings for that period rather than being reported in an income statement. If we had such a change, it would require us to present our previously issued financial statements to reflect the change in accounting principle to prior periods presented. SFAS 154 is effective for accounting changes and corrections of errors made in fiscal years beginning after December 15, 2005. Early adoption is permitted.

We do not anticipate that the adoption of SFAS 154 will have a material impact on our results of operations and financial position.

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**GERON CORPORATION  
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**

**Reclassifications**

Certain reclassifications of prior year amounts have been made to conform to current year presentation. Realized gains or losses in fair value of equity investments in licensees have been reclassified to interest and other income from interest and other expense on the consolidated statements of operations for all periods presented.

**2. FINANCIAL INSTRUMENTS AND CREDIT RISK**

**Cash Equivalents and Marketable Debt Securities Available-for-Sale**

Marketable debt securities by security type at December 31, 2005 were as follows:

Marketable debt securities by security type at December 31, 2004 were as follows:

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**GERON CORPORATION  
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**

Marketable debt and equity securities with unrealized losses at December 31, 2005 and 2004 were as follows:

The gross unrealized losses related to corporate notes, US agency notes and asset-backed securities were due to changes in interest rates. The gross unrealized losses related to equity investments in licensees were a result of declining valuations for those biopharmaceutical companies. We have determined that the gross unrealized losses on our investment securities as of December 31, 2005 and 2004 are temporary in nature. We review our investments quarterly to identify and evaluate whether any investments have indications of possible impairment. Factors considered in determining whether a loss is temporary include the length of time and extent to which fair value has been less than the cost basis, the financial condition and near-term prospects of the investee, and our intent and ability to hold the investment for a period of time sufficient to allow for any anticipated recovery in market value. All of our corporate notes, U.S. government agency securities and asset-backed securities are rated investment grade. We recognized charges of \$192,000, \$226,000 and none in 2005, 2004 and 2003, respectively, related to other-than-temporary declines in the fair values of certain of our equity investments. As of December 31, 2005 and 2004, the carrying values of our equity investments in non-marketable nonpublic companies were \$314,000 and \$448,000, respectively.

### **Notes Receivable from Related Parties**

As of December 31, 2004, we held notes receivable from related parties for three employees for a total balance of \$147,000. Certain real property assets of the employees have historically collateralized these notes, which in general bore no interest. Imputed interest income on these loans has been forgiven and this expense has been recognized as an operating expense. All the employee notes were repaid in 2005 resulting in no outstanding balance for notes receivable from related parties as of December 31, 2005.

### **Other Fair Value Disclosures**

At December 31, 2005, the fair value of equipment loans approximated the carrying value of \$55,000. The fair value was estimated using discounted cash flow analyses, based on our current incremental borrowing rates for similar types of borrowing arrangements.

See discussion of our obligation to fund research at the Roslin Institute in Midlothian, Scotland in Note 10 on Intangible Asset and Research Funding Obligation.

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## **GERON CORPORATION NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**

### **Credit Risk**

We place our cash, restricted cash, cash equivalents, and marketable securities with three financial institutions in the United States. Generally, these deposits may be redeemed upon demand and therefore, bear minimal risk. Deposits with banks may exceed the amount of insurance provided on such deposits. Financial instruments that potentially subject us to concentrations of credit risk consist primarily of marketable securities. Marketable securities consist of high-grade corporate bonds, asset-backed securities and U.S. government agency securities. Our investment policy, approved by the Board of Directors, limits the amount we may invest in any one type of investment issuer, thereby reducing credit risk concentrations.

### **3. MARKETABLE AND NON-MARKETABLE EQUITY INVESTMENTS IN LICENSEES**

In connection with our license agreement with Clon International Pty Ltd. signed in December 2000, we received equity equal to 33% of the outstanding stock of Clon International. As of December 31, 2005, our equity interest was 25%. As our share of Clon International's operating losses exceeded the original carrying value of our investment, we discontinued the application of the equity method since September 30, 2005. The



carrying value of Clone International equity was none and \$260 at December 31, 2005 and 2004, respectively. We do not have any funding obligations under this license.

In connection with our license agreement with XenoTrans, Ltd. signed in April 2004, we received equity equal to 25% of the outstanding stock of XenoTrans. In accordance with the equity method of accounting, we increase (decrease) the carrying value of the investment by a proportionate share of XenoTrans' earnings (losses). Any increases (decreases) are included in interest and other income. Since our share of XenoTrans' net operating losses exceeded the original carrying value of the equity investment, we discontinued the application of the equity method of accounting since June 30, 2004. We do not have any funding obligations under this license.

#### **4. JOINT VENTURES AND RELATED PARTY TRANSACTIONS**

##### **TA Therapeutics, Ltd.**

In March 2005, we and the Biotechnology Research Corporation (BRC) established a joint venture company in Hong Kong called TA Therapeutics, Ltd. (TAT). Pursuant to the joint venture agreement with BRC, we contribute scientific leadership, development expertise, intellectual property, and capital to TAT. BRC provides scientific leadership, a research team, capital, and laboratory facilities. We and BRC each own 50% of TAT. Both parties also have agreed to contribute financially to fund the operations of TAT. BRC agreed to an initial capital contribution of \$6,000,000, payable in six equal quarterly payments. Three months after BRC has fully paid this amount, we will contribute \$2,000,000, payable in two equal quarterly payments. Operations for TAT began April 1, 2005. As of December 31, 2005, BRC had funded \$1,000,000 to TAT.

In accordance with the equity method of accounting, we increase (decrease) the carrying value of our investment in TAT by a proportionate share of TAT's earnings (losses). We recognized a loss of \$12,000 for our proportionate share of TAT's 2005 second quarter losses. Since our share of TAT's net operating losses exceeded the carrying value of our investment in and net advances to TAT, we have discontinued the application of the equity method of accounting since July 1, 2005. If TAT subsequently reports net income, we will resume applying the equity method only after our share of that net income equals the share of net losses not recognized during the period the equity method was suspended. Cash contributions made by us in the future will be recorded as additional investments when such amounts are actually paid.

In March 2005, we also entered into a Services Agreement with TAT to provide research and development services for the new company. TAT pays a fee in connection with our performance of the services. This fee approximates the actual direct costs incurred in performing these services. We recognize revenue under collaborative agreements as the related research and development services are performed. We incurred related party research and development costs of \$290,000, related to TAT and recognized related party revenue of \$290,000 in 2005. Of the \$290,000 recognized during 2005,

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#### **GERON CORPORATION NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**

approximately \$194,000 was recorded as interest and other receivables from related parties on the consolidated balance sheet as of December 31, 2005. No related party revenues or costs were recognized in 2004 or 2003.

##### **stART Licensing Inc.**

In April 2005, we entered into a Formation and Shareholders Agreement (FSA) and Contribution and License Agreement (CLA) with Exeter Life Sciences, Inc. (Exeter) to form stART Licensing, Inc. (stART). stART manages and licenses a broad portfolio of intellectual property rights related to animal reproductive technologies. We and Exeter own 49.9% and 50.1% of stART, respectively.

Pursuant to the CLA, we granted a worldwide, exclusive, non-transferable license, with the right to sublicense, to our patent rights to nuclear transfer technology for use in animal cloning. These patent rights include patents originally licensed from the Roslin Institute in Edinburgh, Scotland in conjunction with our 1999 acquisition of

Roslin BioMed, as well as patents covering technology arising from subsequent animal cloning work that we funded at the Roslin Institute. We have retained all rights to nuclear transfer technology for use in human cells. Exeter granted a worldwide, exclusive, non-transferable license, with the right to sublicense, to its patent rights for the use of the Roslin nuclear transfer technology for the production of proteins in milk of animals, as well as rights to other cloning technologies, including chromatin transfer, a technology developed at the University of Massachusetts.

Pursuant to the FSA, Exeter will provide initial operating capital and other management services to stART. Exeter made an initial capital contribution to stART and the remainder will be provided by them from time to time, but in any event within 24 months following the execution of the FSA. We have no financial obligations to provide operating capital for stART nor are we obligated to perform services or other activities for the joint venture. We received an upfront payment in cash of \$4,000,000 from stART upon the execution of the FSA in consideration of the technology we contributed in excess of the value of the equity we received in stART. We recognized this payment as license fee revenue from related parties in April 2005. We are also entitled to receive payment upon achievement of a specified future milestone.

In accordance with the equity method of accounting, we increase (decrease) the carrying value of our investment in the joint venture by a proportionate share of stART's earnings (losses). Any increases (decreases) are reflected separately in our condensed consolidated statements of operations as equity in losses or income in the joint venture. The initial investment in stART reflected the book value of the intellectual property rights we conveyed to stART. Since there was no net book value associated with these intangible assets at the execution of this arrangement, no initial value was recognized for our investment in stART. We have not yet applied the equity method of accounting since our proportionate share of net losses in stART exceeded our original carrying value of the equity investment. If stART subsequently reports net income, we will apply the equity method only after our share of that net income equals the share of net losses not recognized during the period the equity method was suspended.

In conjunction with the joint venture agreement, we sold our equity interest in Exeter for proceeds of \$200,000 and recognized a gain of \$56,000 from this sale representing the excess of the cash proceeds over the carrying value of the investment.

## **5. PROPERTY AND EQUIPMENT**

Property and equipment, stated at cost, is comprised of the following:

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### **GERON CORPORATION NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**

## **6. EQUIPMENT LOANS**

In 2005, we renewed our equipment financing facilities and had approximately \$1,400,000 available for borrowing as of December 31, 2005. The drawdown period under the equipment financing facilities expires in November 2006. The obligations under the previous equipment loans, which are secured by the equipment financed, bear interest at fixed rates of approximately 9% per year and are due in monthly installments through June 2006.

Future minimum principal payments on equipment loans are as follows:

## **7. ACCRUED LIABILITIES**

Accrued liabilities consist of the following:

## **8. OPERATING LEASE COMMITMENT**

In March 2004, as payment of the total rent due for our premises at 200 Constitution Drive and 230 Constitution Drive in Menlo Park, California for the period from February 1, 2004 through July 31, 2008, we issued to the lessor of those premises 363,039 shares of our common stock. The fair value of the common stock of \$3,052,000 was recorded as a prepaid asset and is being amortized to rent expense on a straight-line basis over the lease period.

Future minimum payments under non-cancelable operating leases are zero through July 31, 2008, as a result of the prepayment of rent with our common stock. Rent expense under operating leases was approximately \$678,000, \$966,000 and \$1,296,000 for the years ended December 31, 2005, 2004 and 2003, respectively.

## **9. CONVERTIBLE DEBENTURES**

On June 29, 2000, we sold \$25,000,000 in series D zero coupon convertible debentures and a warrant to purchase 834,836 shares of our common stock to an institutional investor. We recognized \$10,527,000 in interest expense with an offset to additional paid-in capital for the Black Scholes calculated value of the warrant issued with the convertible debentures. In December 2000, we recognized an additional \$10,527,000 in imputed non-cash interest expense related to the beneficial conversion feature of the series D convertible debentures as a cumulative effect of a change in accounting principle, with an offset to additional paid-in capital.

In November 2001, we modified the terms of \$10,000,000 of outstanding series D convertible debentures and converted the debentures into 1,011,122 shares of our common stock. The remaining \$15,000,000 of outstanding series D convertible debentures was modified to extend the maturity date to June 30, 2005, increase the yield on the debenture to 2.5%, and fix the conversion price at \$20.00 per share. The related warrant was split into two warrants. The series D-1 warrant to purchase 333,935 shares of our common stock had an exercise price of \$15.625 per share and an exercise period to June 30, 2003.

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## **GERON CORPORATION NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**

The series D-2 warrant to purchase 500,901 shares of our common stock had an exercise price of \$25.00 per share and an exercise period to December 31, 2006. As a result of this modification, we recorded \$11,910,000 in conversion expense on our consolidated statements of operations for 2001.

In May 2003, we modified the existing terms of the outstanding \$15,000,000 of series D convertible debentures to provide for an automatic conversion into equity on the maturity date, fixed the conversion price at \$5.00 per share and eliminated the interest accrual for the remainder of the term. In addition, we modified the terms of the related outstanding warrants and changed the exercise prices to \$7.50 per share. The expiration periods were unchanged. As a result of this second modification, we recorded \$779,000 in conversion expense on our consolidated statements of operations for 2003.

During May and June 2003, all of the remaining \$15,000,000 of series D convertible debentures plus accrued interest of \$575,000 were converted into 3,115,068 shares of our common stock. As of December 31, 2005 and 2004, no series D convertible debentures remained outstanding. Amended series D-1 warrants to purchase 333,935 shares of our common stock expired on July 1, 2003 without having been exercised and amended series D-2 warrants to purchase 500,901 shares of our common stock remained outstanding as of December 31, 2005.

## **10. INTANGIBLE ASSET AND RESEARCH FUNDING OBLIGATION**

In May 1999, we completed the acquisition of Roslin Bio-Med Ltd., a privately held company formed by the Roslin Institute in Midlothian, Scotland. In connection with this acquisition, we formed a research collaboration with the Roslin Institute and committed approximately \$20,000,000 in research funding over six years. Using an effective interest rate of 6%, this research funding obligation had a net present value of \$17,200,000 at the acquisition date. As of December 31, 2005 and 2004, the present value of our remaining commitment was

\$1,418,000 and \$3,044,000, respectively. Payments totaling \$1,871,000 and \$3,261,000 were made to the Roslin Institute under the research funding obligation in 2005 and 2004, respectively. Imputed interest of \$245,000 and \$491,000 was accreted to the value of the research funding obligation and was recognized as interest expense in 2005 and 2004, respectively.

The acquisition was accounted for using the purchase method of accounting. The purchase price was allocated among the acquired basic research in the form of a license to the nuclear transfer technology, the research agreement with the Roslin Institute and the net tangible assets of Roslin Bio-Med Ltd. At the time of acquisition the value of the nuclear transfer technology of \$23,400,000 was reflected as acquired in-process research technology expense and the value of the research agreement of \$17,200,000 was capitalized as an intangible asset that was being amortized over the six year funding period as research and development expense, with \$754,000, \$2,688,000 and \$2,865,000 being amortized in 2005, 2004 and 2003, respectively. In December 2004, we extended the research funding period from June 30, 2005 to June 30, 2006 and we adjusted the amortization period of the intangible asset to coincide with the extended research period. We recomputed the present value of the remaining funding commitment as of the date of the extension and no adjustment was deemed necessary to the carrying value of the obligation at that date. No additional funding was committed. Research and development expense related to the amortization of this intangible asset is expected to be \$377,000 in 2006.

## **11. ACQUISITION OF IN-PROCESS RESEARCH TECHNOLOGY**

In March 2004, we entered into an agreement with Merix Bioscience, Inc. (now Argos Therapeutics, Inc.) under which we acquired a co-exclusive right under patents controlled by Argos for the use of defined antigens in therapeutic cancer vaccines. In conjunction with the agreement, we issued 5,000,000 shares of our common stock to Argos.

We acquired rights to the Argos technology for commercial development of our therapeutic cancer vaccine. Further development of the technology is required before we can enter into advanced clinical trials for a potential commercial application. We have concluded that this technology has no alternative future use as defined in Statement of Financial Accounting Standards No. 2, [Accounting for Research and Development Costs] and accordingly, expensed the value of the acquired in-process research technology of \$45,150,000 at the time of acquisition.

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## **GERON CORPORATION NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**

## **12. STOCKHOLDERS' EQUITY**

### **Warrants**

Warrants outstanding to purchase our common stock as of December 31, 2005 are detailed as follows:

### **1992 Stock Option Plan**

The 1992 Stock Option Plan (1992 Plan) expired in August 2002 and no further option grants can be made from the 1992 Plan. The options granted under the 1992 Plan were either incentive stock options or nonstatutory stock options. Options granted under the 1992 Plan expired no later than ten years from the date of grant. For incentive stock options and nonstatutory stock options, the option exercise price was at least 100% and 85%, respectively, of the fair market value of the underlying common stock on the date of grant. Options to purchase shares of common stock generally vested over a period of four or five years from the date of the option grant, with a portion vesting